

THE NORTH DAKOTA FARMER



"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

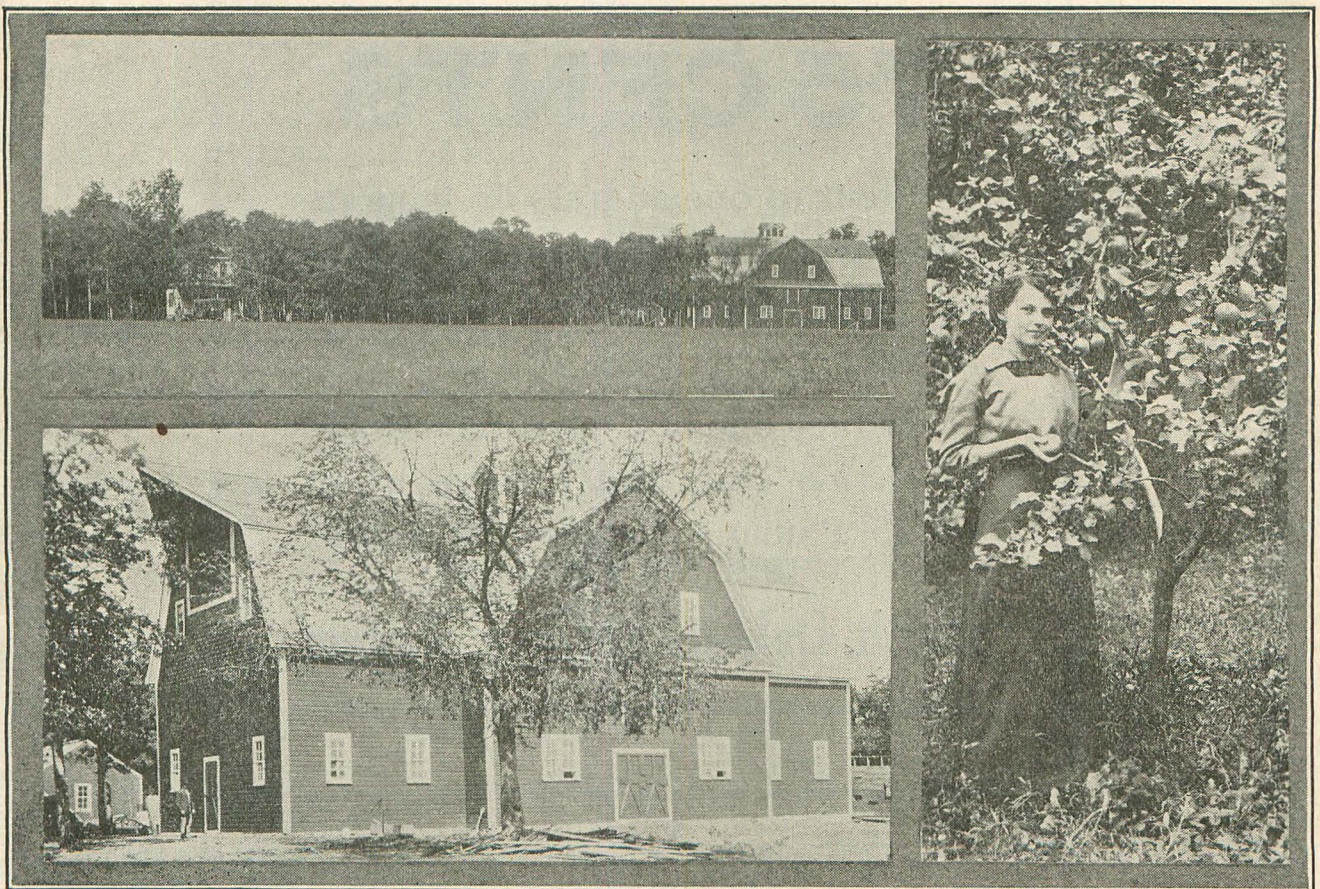
Alex Alin

Jan 17

Vol. 15 No. 11

Lisbon, North Dakota, May 15, 1914

50 Cents A Year



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North Dakota Farmer, Lisbon

THE NORTH DAKOTA FARMER

Vol. 15, No. 11

LISBON N. D., MAY 15, 1914

50 Cents a Year

A National Campaign for Marketing

An organization to forward the national movement for the improvement of standards of packs, packages and carriers in connection with the marketing of farm products and for the encouragement of farmers' marketing organizations on the nonprofit corporation plan, with the possible holding of an all-American exhibit of packs and packages, were among the big results of the Second National Conference on Marketing and Farm Credits, held in Chicago April 14-17. At a business session the delegates passed by unanimous vote the following report of the Committee on Permanent Organization:

After a survey of the problems, both local and national, your committee recommends:

(1) That the work of this body should be perpetuated under the name of the National Conference on Marketing and Farm Credits.

(2) That the chairman of the business sessions be instructed to appoint a general committee of not less than fifteen members whose personnel shall be of a representative character.

This committee should have powers:

(1) To increase its membership according to the needs of the work to be done.

(2) To create such subcommittees to represent the various interests that from time to time will ally themselves with the National Conference on Marketing and Farm Credits.

(3) To work out a scheme of membership representation among the various societies, organizations, institutions and individuals that are admitted to membership, and a suitable membership fee for each of the parties here referred to.

(4) To begin a constructive educational program for the improvement of the standards of farm products and for the assisting of

farm producers to perfect the necessary organizations for the carrying out of this plan in the most businesslike way that is possible for each organization.

(5) To look into the feasibility of holding an all-American standardization exhibit at the time of the third conference, and to be given power to act.

(6) To determine the time and place of the Third National Conference on Marketing and Farm Credits.

The authority granted this general committee and its subcommittees should expire at the end of the Third National Conference on Marketing and Farm Credits."

Respectfully submitted,
Frank L. McVey
B. F. Harris
Charles McCarthy
John Graham Brooks
Lou D. Sweet
J. C. Caldwell
Charles W. Holman"

With President F. L. McVey of the University of North Dakota rests the responsibility of selecting this committee that will have the future of this great movement in its hands. President McVey will make the appointments within a few weeks.

In addition the delegates passed, with only two dissenting votes, the following report of the Committee on Resolutions:

"Your Committee on Resolutions respectfully submits the following:

(1) WHEREAS, The Sherman Act as it is now construed is a serious menace to progress of organization and confederation; and,

WHEREAS, The farmers and the other co-operative organizations do not wish to be lawbreakers, neither do they wish for special exemptions of any kind; and,

WHEREAS, They wish legislation which will not hinder or forbid such legitimate organization and which

will prevent unfair practices by all organizations as well as protect such organizations from unfair discrimination and practices directed by great or small combinations of dealers.

THEREFORE BE IT RESOLVED:

That this Conference hereby demands from Congress legislation which will properly modify the existing Sherman Law to the end that this proper and reasonable protection and regulation be extended to co-operative organizations whether they be of consumers or producers, and to the end that such organization be fully protected and encouraged thereby.

(2) RESOLVED, That it is the judgment of the Conference that Congress should appropriate liberally for the maintenance of the Office of Markets, and further that the said Office of Markets should employ at the earliest possible time, specialists charged with the duty of ascertaining all facts pertaining to the marketing of all farm products, particularly perishable products, having in mind an early plan for the proper preparation for market, shipping, inspection and selling of the said products, and that as early as practicable special attention be given to the investigation of the feasibility of placing federal inspectors of perishable products in the principal markets transportation centers, also that this office be urged to co-operate with the various state departments of agriculture.

(3) RESOLVED, That we urge all farmers and other co-operative organizations to join us by sending delegates on a proper representation basis as determined by our permanent committee, to our next conference in order that all co-operators will eventually be joined in some kind of a national permanent federation.

(4) RESOLVED, That this conference hereby requests all transportation bodies to extend the work now done for greater production to an equal effort toward standardization and marketing, and that these transportation agencies be invited to co-operate with all future efforts of this conference in this direction; we hereby urge such agencies to federate their efforts and organize definitely for this purpose.

(5) RESOLVED, That the question of holding the Conference at the San Francisco Exposition be referred to the committee on permanent organization which has already been charged with the duty of passing upon the time and place of the next meeting.

(6) WHEREAS, The National Commission on Industrial Relations has indicated the intention of looking into the farm labor problem, therefore be it resolved that this Conference urge that the said commission make an exhaustive investigation of both the farm labor and farm tenancy problems, particularly in their relation to the more businesslike production and distribution of farm products.

(7) WHEREAS, The educational institutions of the various states of the United States have during the past decades given most of their attention to the problems of production in so far as they have interested themselves in agriculture; and,

WHEREAS, The problems of marketing and farm credits have now come forward as questions of great national importance, causing great public concern;

THEREFORE BE IT RESOLVED, That the Second National Conference on Marketing and Farm Credits urges upon the aforesaid educational institutions the desirability of giving these subjects a place in their courses of study, and be it further resolved that we urge legislative bodies to liberally support the effort to establish this new work by reasonable appropriations of the public funds.

(8) Be It RESOLVED, and it is the sense of this body, that the campaign for the standardization of packs, packages, carriers, etc., should be immediately taken up and the various interests employed in promoting this work be solicited to co-operate in forwarding this work and in forwarding an all-American standardization exhibit.

(9) RESOLVED, That this Conference urge upon Congress action upon the question of rural credit; this action should be taken, however, with care and deliberation. Great interests which have already controlled the marketing of industrial securities are now striving to gain control over rural credit. Again we recognize that any system of bonding on a long time basis, must be based on the soundest valuation and maintenance of agricultural values. Any hasty or wild-cat exploitation will only hurt in the end every effort to promote an efficient system of agricultural credit. Amortization schemes must be carefully tested in order that they do not prove a snare and delusion. Reckless governmental aid plans are detri-

mental to true co-operation, which is only successful the world over when based upon self-help, careful auditing, valuation and sound business methods; we favor the basic co-operative principles in dealing with the question of farm credit, as well as in all other matters of farm organization.

(10) RESOLVED, That we heartily endorse the passage by several legislatures of true co-operative laws based upon the one man, one vote basis, and urge upon the members of this Congress the necessity for promoting such laws in every state of the Union.

We hereby endorse the co-operative plan of marketing goods and urge upon our legislatures proper legislative for the encouragement of such organizations, the protection of them against unfair discrimination and upon the business of producers, and also such survey of state markets and market conditions, and the furnishing of such information by marketing commission or otherwise, as will adequately help in the work of such true co-operative organizations.

WHEREAS, The national government and the various state governments now expend large sums for the collection and diffusion of information showing the quantities of farm products raised by American farmers, i. e. to the question of supply, but have given little attention to the question of location and extent of demand.

THEREFORE BE IT RESOLVED: That the Conference urges the desirability of the collection and diffu-

sion of similar information showing the demand for these products both in this country and abroad,

J. C. Caldwell
Charles McCarthy
John Lee Coulter
John Graham Brooks
A. W. Sanborn."

The Committee on Credentials reported delegates from Canada, California, Colorado, District of Columbia, Florida, Illinois, Indiana, Iowa, Kansas, Massachusetts, Michigan, Minnesota, Missouri, Nebraska, North Dakota, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, Rhode Island, Tennessee, Texas, Virginia, West Virginia, Washington, Oregon, and Wisconsin.

An analysis of the personnel of the delegates showed representatives from 46 farm journals and newspapers, 26 farmers' organizations, 26 colleges, universities and experiment stations, 23 railroads, 12 banks, and bankers' organizations, 11 labor organizations, and 10 consumers' co-operative organizations. In addition to these there were 40 farmers, 8 representatives of express companies, 8 grain men, 7 lawyers, 6 real estate men, 5 retail merchants, 3 wholesale produce dealers, and over a hundred unclassified, including students, housewives, agents of manufacturers, etc. The total of delegates seated was over 350.

CHARLES W. HOLMAN, Sec.

The Farmer - a Benefactor

By President J. H. Worst, N. D. A. C.

The farmer is a producer of wealth. The products of the farms and of the herds and flocks add to the country's wealth. Unlike trading for gain, as in merchandising, the wealth the farmer produces comes from the natural elements. He takes from the soil and air, but not from his neighbor. While he is working and planning for the comforts of his family, he is also contributing to the public welfare. The surplus of the farm which adds to his accumulations, nevertheless goes away to feed the hungry and clothe the naked. The farmer, therefore, is a benefactor. His motives may be selfish but his mission is to supply the fundamental needs of humanity. The world depends upon the farmer for bread.

The beneficent Creator thus made provision for His children's comfort

and happiness by giving them a productive soil. Those so fortunate as to be possessed of land are the custodians of the world's chief source of food supply. Their stewardship is unquestionable. There is nothing more sacred, from the material viewpoint, therefore, than the soil. It should be so regarded and not under any circumstances be permitted to reflect mismanagement on the part of its owner.

North Dakota is an empire of natural wealth. Nature has favored our great commonwealth with a soil that in many respects places it in a class by itself. The climate also is exactly adapted to the needs of the soil. All that is required, in addition, to make our state rank among the most prosperous in the union is to adapt our system of farm management

so as to conform to the local conditions of soil and climate.

Inasmuch as the seasons are short, an exceedingly rich soil is required to mature the crops between frosts. Nature gave us just this type of soil, but the husbandman in order to conform to Nature's demands, must maintain its fertility. He should do more. He should increase its fertility. Livestock will enable the farmer to do this, hence the rearing of livestock should become one of our greatest industries. Moreover, the hazards of farming are diminished approximately in the ratio that livestock bears to grain farming. A region that once supported millions of buffalo is naturally adapted to cattle raising.

"The moisture is not superabundant" say our critics. However, it has been abundantly demonstrated that there is sufficient if it is not wasted or stolen. With proper tillage the natural waste by capillarity may be avoided and when the land is kept free from weeds, the moisture will not be stolen. The frequent tillage necessary to conserve moisture does not represent wasted energy. It will pay to give the land frequent tillage under any circumstances. As a matter of fact, too many farmers do not put enough labor on their land, hence the necessity for doing so, thru fear of drought, makes limited rainfall a blessing in disguise rather than an evil.

The cultivation of corn also conserves moisture by destroying weeds, to which we must candidly charge up more cause for drought than we may honestly charge to lack of precipitation. As long as weeds are permitted to grow almost without limit in our grain fields to rob the soil of moisture, it is with poor grace that we blame the climate with insufficient rainfall. Nature made no provision for a co-partnership between wheat and weeds,—not in this state.

Too much rainfall is as bad as too little rainfall. The ideal condition is just enough moisture and that we have if, as before stated, none of it is wasted on account of shallow plowing and scant tillage or is stolen by weeds that are permitted to flourish.

All things considered, it is evident the Almighty intended that North Dakota should contribute mightily to the world's supply of food and clothing. It would indeed seem sacrilegious to permit this rich soil to become in the least degree impoverished for want of skilful cultivation.

Our farmers here as nowhere else may prosper and at the same time be benefactors, for nothing that we can produce but the world is demanding and is willing to pay for. If the farms average too large, and efficient

labor is too scarce to skilfully cultivate the soil, there is a remedy. **More farmers.** A denser population. And the best advertisement for our vacant lands is the resulting yields of well-tilled acres.

The glory of our commonwealth will ultimately be reflected from medium to small-sized farms intensively cultivated and well-stocked with farm animals.

We should not overlook the fact that nations have flourished or decayed about in proportion as they conserved or neglected their agricultural resources. The agricultural opportunities that are ours in North Dakota, therefore, far from being viewed with indifference should be fostered in every legitimate way. Agricultural education in the schools and on the farms should be pushed judiciously and constantly.

WATER REQUIREMENTS OF PLANTS

W. C. Palmer, Agricultural Editor,
N. D. A. C.

Different crops require different amounts of water. These amounts also vary for each crop under different climatic conditions. A knowledge of these water requirements of the different crops may in a measure serve as a guide in selecting the ones best adapted to certain sections.

Briggs and Shantz of The Bureau of Plant Industry, Washington, D. C. have carried on investigations in the water requirements of different crops at Akron, Colo., and at Amarillo and Dalhart, Texas, in 1910 and 1911.

The results of these experiments are given in Bul. No. 284 Bureau of Plant Industry. The average of these experiments are as follows: Pounds water required to produce a pound of dry matter (whole plant)—millet 275, sorghum 306, pig weed 275, tumble weed 277, Russian thistle 336, corn 369, sugar beet 377, rape 441, potatoes 448, wheat 507, barley 539, buckwheat 578, oats 614, sweet clover 709, field peas 800, alfalfa 1068.

The pounds water required to produce a pound of grain was as follows: sorghum 790, millet 923, buckwheat 1037, barley 1244, wheat 1357, oats 1680. It required 166 pounds water to produce a pound of potato tuber and 110 to produce a pound of sugar beet root.

This brings out the big differences between the effective use that the different crops can make of the moisture. It does not however take into consideration the ability of the different crops to secure moisture thru their larger or small root systems.

The water requirement of the legumes and especially alfalfa is high. It must be kept in mind tho that the legumes are high in protein.

The water that would suffice for producing a fifty bushel crop of oats, according to these figures, should be sufficient for producing 2500 lbs. of alfalfa. The 50 bushel oats will contain 171 lbs. digestible protein, while the 2500 lbs. of alfalfa will contain 277 lbs. digestible protein. Of digestible carbohydrates and fat the 50 bushels oats contain 942 lbs., while the 2500 lbs. alfalfa would have 1012 lbs. The alfalfa with its larger root system, and especially if the plants are not too thick, will be able to draw moisture from more soil than can the oat plant, and will therefore be able to produce more than the 2500 lbs. of alfalfa to the 50 bushels of oats. In fact it will likely be nearer two tons, which would contain 444 lbs. digestible protein and 1620 pounds of digestible fat and carbohydrates.

It was also found that the different varieties of a crop required different amounts of water as for instance the following varieties of wheat (whole plant, pounds water to make one pound dry matter) Kubanka 468, Galgalgos 496, Spring Ghirka 506, Marvel Blue Steaem 531: (pounds water to produce one pound grain) Kubanka 1191, Galgalgos, 1245, Spring Ghirka 1382, Marvel Blue Stem 1786.

This data helps explain why corn, millet and kaffir have done better than some other crops in the regions of lighter rainfall.

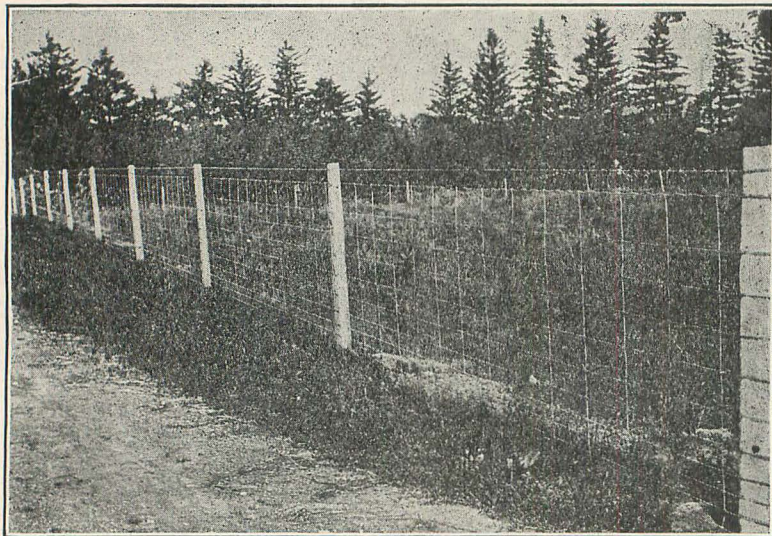
CONCRETE FENCE POSTS

Where cement is easily obtained and proper aggregates are available, which applies practically to the greater part of the United States, farmers are finding it profitable to substitute concrete posts for posts of wood. Wooden posts are temporary at best, and in some localities decay within a very few years.

Concrete posts are indestructible, keep in better alignment than wooden posts, and, under normal conditions, cost little more if as much as the latter. In some sections of the country they can be made cheaper than a good wooden post. Their fireproof and everlasting qualities makes them especially desirable. A simple type of post can be easily made on the farm. A farmer may make his own molds, or he can purchase them from one of the various concerns that manufacture molds on a large scale. Farmers sometimes club together in purchasing factory or

metal molds, thus reducing expense to the individual. This is a very good plan as metal molds do not warp or decay.

The easiest and cheapest wooden mold to make is the straight mold, or one for a post which does not taper. Such molds are merely long boxes having various devices for making the molding of the post a simple matter.



On account of the amount of lumber saved and the ease with which these molds are filled, straight molds are generally made in "sets" or "gangs," by constructing several side by side with a continuous bottom and end pieces.

Posts should be reinforced with a rod or wire in each corner. In most cases round bars three-sixteenth or one-fourth inch in diameter are used.

After the molds have been oiled or soaped, the concrete should be placed in them at once. If, for any reason, the concrete stands thirty minutes before

using, it should be thrown away and a new batch mixed, for cement, if it has once partially set, makes weak, dangerous concrete, even tho it is re-tempered by turning or adding water. After the molds are filled evenly to the depth of three-fourths of an inch or one inch, according to the spacing of the reinforcing rods or wires, the reinforcement should be laid in, prop-

erly spaced by means of at least three "fool-proof" wire spacers. The concrete should then be poured in until the molds are filled within three-fourths of an inch or one inch of the top, when the remaining reinforcement is fitted in place in the manner described above and the molds are completely filled. To render the concrete more compact, a crowbar or a pinch bar should be placed under each corner of the mold successively and moved up and down quickly. This vibration makes the concrete more compact by shaking out the air bubbles, but there

will be very few of these bubbles if the concrete is thoroly mixed and of proper consistency. If desired, the exposed corners of the post may be beveled with an "edger" and the open face given a neat finish by using a trowel immediately after the surface water has been absorbed and before the concrete has become too hard.

The following are exceedingly important precautions:

Do not expose the newly made posts to wind, hot sunshine or frost.

Do not remove the mold from the green posts until thoroly hardened, which generally requires two or three days. Even then the post must remain on the bottom board in the shade and not be disturbed for at least a week. During the first two days keep the post wet and covered with canvas, burlap or other clean material, and dampen it thereafter each day for about a week.

The Mixture

In mixing the concrete, if unscreened "bank-run" gravel is decided upon, it should be used in the proportion of 1 part of cement to 4 parts of gravel. For crushed rock or screened gravel (which is much better than "bank-run" gravel), the concrete should be



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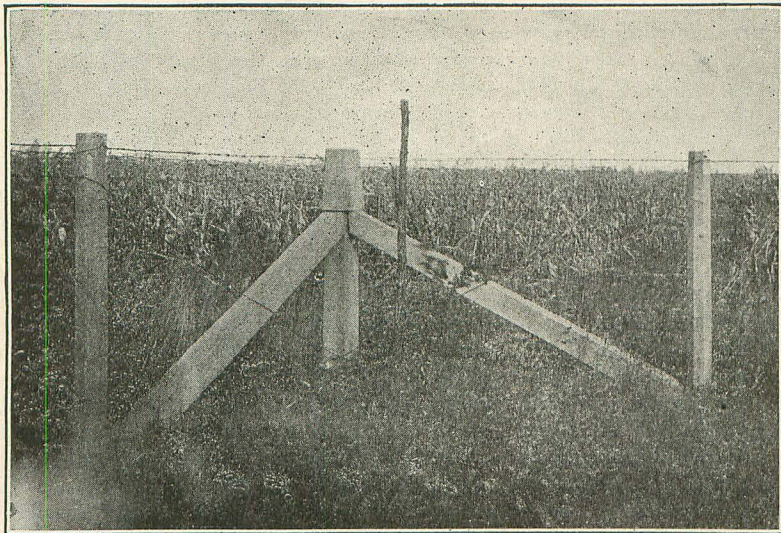
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used in the proportion of 1 part of cement, 2 parts of sand, and 4 parts before new centers of infection could be established.



of rock or gravel. All measurements should be made with the material poured loosely into the measuring box, and the box, when full, should be carefully leveled.

GET READY TO FIGHT HOG CHOLERA

The following plan for fighting hog cholera is suggested by Dr. L. Van Es, veterinarian of the North Dakota Experiment Station. This plan would make it possible for any community to protect itself from serious losses by hog cholera.

Much can be accomplished in hog cholera prevention by co-operative efforts on the part of farmers. In this connection we submit the following tentative plan.

An organization to be effected by the farmers, say of a given township, or the farmers' clubs already organized, could with profit incorporate this plan into their activities. The organization so formed to elect somebody as executive. Each member of the organization to turn into the general treasury a fixed amount of money, ten to fifteen dollars (\$10.00-\$15.00) according to the number of hogs owned by the organization. This fund to be invested in serum and the necessary equipment for its use, and the serum to be stored in a suitable place under control of the executive.

This would assure a supply of serum in case the disease should make its appearance on any of the contributing farms. This is of the greatest importance, as its use would render the check of the disease possible

When the disease makes its appearance among hogs of a club member, the latter should at once notify the custodian of the serum, who thereupon should issue the required amount of serum to the member requiring it, who would pay for the same, so as to enable the executive to again replenish the stock.

This plan would have the advantage of an available supply of serum, when it is most needed, namely, at the beginning of an outbreak. Prompt use of the serum on a given farm, would in a large measure reduce the danger to the other herds in the community, while the replenishment of the stock of serum would enable the executive to meet further demands.

If the season should pass without an outbreak occurring the serum could in all probability be disposed of, and the money turned to the original contributors after a pro-rata reduction to

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cover the cost of handling. But even if the serum could not be disposed of, the individual assessments would be small in comparison with the value of the protection they afforded.

The farmer, himself, is the most important factor in the fight against hog cholera, because he is the one who observes the disease when preventative measures can be made most effective.

If hog cholera is at all to be prevented and kept in check it will be principally thru the vigilance of individual hog owners, aided in their efforts by organized co-operation and intelligent team work.

The Cut Worm

C. B. Waldron, Horticulturist,
N. D. A. C.

There has been considerable complaint for several years past on the part of both farmers and gardeners as to the damage done by the cut-worms.

The cut-worm is the larval form of some of the many species of Owlet moths. These moths are commonly known under the name of Moth Miller. There are several species of Owlet moth, the larvae of which are more or less destructive. These different species closely resemble each other and as their life history is very much the same it is not of importance to give an accurate description of any one of the species. The moths are of a mottled gray or grayish brown color. The under or hind wings are lighter in color and somewhat thinner in texture than the upper or forewings. The forewings are nearly an inch in length so that the moth expands to a width of about two inches. The moths first appear about midsummer and are common from that time until late in September. They fly almost wholly at night and in the day time conceal themselves about the buildings, fences, trees, etc. They are often seen in the evening flying about lamps when they can gain entrance to the house.

The moths begin laying their eggs shortly after the middle of July and continue this process until cold weather in the fall. Each female lays from two hundred to five hundred eggs. The eggs for the most part are deposited on the stems of grasses and weeds close to the ground. On this account meadows, lawns and fields that have been allowed to grow up to grass and weeds during the latter part of the summer are places where the cut-worms are usually found. The eggs hatch within a few days when the larvae begin feeding upon the

roots of the plants. At this time of the year the plant food is so abundant that the work of the cut-worms is unnoticed. As they feed they increase in size, molting their skin two or three times before winter. At the beginning of winter they are usually from three-fourths of an inch to an inch in length. As winter approaches they bury themselves a short distance below the ground where they hibernate. With the beginning of spring they again become active. This time feeding upon the young plants as they are transplanted in the garden or upon the young corn, flax or grain plants as they begin their growth. It is at this time of the year that their destructiveness becomes more apparent as their food supply is limited to the young plants. Where these young plants are very numerous as in the grain field it is only occasionally that their destructiveness is sufficient to greatly damage the crop, tho in certain seasons they have been known to take practically all of a field of wheat or flax. Their damage is most noticeable with crops like the corn and garden crops where the individual plants are further apart.

The larvae keep feeding during the spring and early summer and after they have obtained their full size they burrow down some four to six inches below the surface of the ground and pupate. They remain in the pupal stage but a few days when they reappear as moths and the egg-laying again begins. As the moths select places in grass or weeds in which to deposit their eggs it is obvious that where land is kept perfectly clean by cultivation there is little danger of cut-worms the following season. It sometimes happens that gardens are badly infested with cut-worms tho they have been kept perfectly clean during the entire summer. This is generally due to the fact that the cut-worms come in from the strips of grass along the edges of the garden or from adjoining lawns or pastures. We have found that the land which is covered with two or three inches of straw as early as the middle of August and burned off before the land is plowed in the fall or spring will be free from cut-worms the following year. While this method is entirely practical for gardens it could not, of course, be applied to fields, because of the labor involved.

It has been found that early fall plowing greatly lessens the number of cut-worms. When the land is plowed early in the fall and immediately worked down the cut-worms are deprived of their source of food and many of them will starve before win-

ter. Late fall plowing has very little effect upon them.

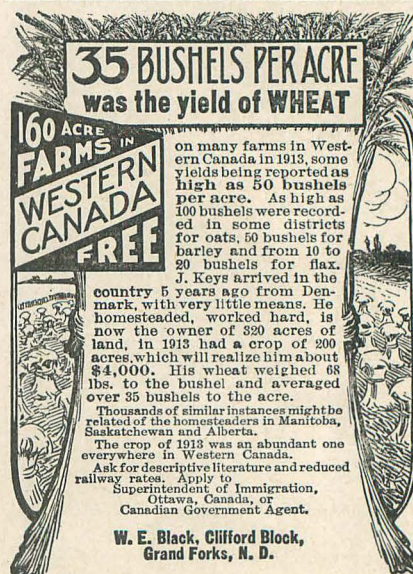
In gardens we have found it practical to poison them by scattering a poisoned bait upon the land before planting the corn and other crops or setting out the plants from the hot-beds. This poisoned bait can be prepared by mixing with fifty pounds of wheat bran, one pound of paris green. To this should be added about two quarts of molasses and enough water to moisten. This should be applied to the land by placing small hand-fulls here and there, two or three yards apart. It is also an advantage to cover this poisoned bait with a hand-full of grass or some other protective material that the cut-worms may seek it more readily. This remedy would not be a practical one applied to large fields. In that case the only practical measure consists in keeping the land in which corn is to be planted free from grass and weeds during the latter part of the summer or else to plow early in the fall the land that has been allowed to become weedy and to see that it is kept clean during the remainder of the season. Plants can be protected from cut-worms by putting a band of paper around them, extending an inch into the soil and an inch above ground. The cut-worms will not eat thru the paper. This method works fine for a small number of plants and especially if the paper bands are put on when transplanting.

The natural enemies of the cut-worm are the robin and grackel com-

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160 ACRE FARMS IN WESTERN CANADA FREE

on many farms in Western Canada in 1913, some yields being reported as high as 50 bushels per acre. As high as 100 bushels were recorded in some districts for oats, 50 bushels for barley and from 10 to 20 bushels for flax. J. Keys arrived in the country 5 years ago from Denmark, with very little means. He homesteaded, worked hard, is now the owner of 320 acres of land. In 1913 had a crop of 200 acres, which will realize him about \$4,000. His wheat weighed 68 lbs. to the bushel and averaged over 35 bushels to the acre. Thousands of similar instances might be related of the homesteaders in Manitoba, Saskatchewan and Alberta. The crop of 1913 was an abundant one everywhere in Western Canada. Ask for descriptive literature and reduced railway rates. Apply to Superintendent of Immigration, Ottawa, Canada, or Canadian Government Agent.

W. E. Black, Clifford Block, Grand Forks, N. D.

monly known as the black bird tho different than the common black-bird that are so numerous at harvest time. The robins may be encouraged by providing trees where they can build their nests. We have counted over one hundred robins in one single flock in the spring all busily engaged in digging out cut-worms. Each one probably destroys twenty or more in a single day. With the help of the birds and such remedies as can be put into practice the ravages of the cut-worm can be reduced to a point where our crops are not greatly endangered.

ALFALFA

Alfalfa is a crop that is adding much to North Dakota farming. It produces more food material per acre than any other crop, except possibly corn, and with corn it makes a balanced ration, so the two crops really should go together.

Good Yields. Last year 843 fields of alfalfa were grown under the direction of the field men of the Better Farming Section of the North Dakota Experiment Station. The hay from two cuttings averaged 2.3 tons per acre. The average yield of seed was 147 lbs. per acre. This at once put

alfalfa in the front rank as a hay producer. At the Dickinson Substation a field in alfalfa has in five years produced 10 tons of hay and 185 pounds of seed, or an average of two tons of hay per acre and 35 pounds of seed a year. The 2.3 tons of alfalfa hay has the same feeding value as 138 bushels of oats, and it will take several acres to average 138 bushels of oats. The expense of making the oats will be much more than that of making the alfalfa.

Try It. Every farmer in the state ought to be experimenting with a small piece of alfalfa, and a great many of them are.

Hardy Seed. That grown in North Dakota, Western South Dakota, or Eastern Montana, under dry land conditions is hardy and reasonable in price. The Grimm is the most hardy but is more expensive.

Seed Bed and Planting. The alfalfa should be planted in a firm and clean seed bed. This is best secured on summer fallow, potato or corn land. Don't plow it in the spring, but disc it shallow early to start the weed seed. Harrow occasionally to help warm it up. In June disc thoroughly to kill the weeds, and sow the alfalfa either in 6-inch drills or in 30-inch drills.

If in 6-inch drills, use 6 to 8 pounds of seed per acre. If in 30-inch rows, one and one-half to two pounds will be enough. The thin seeding favors seed production. The heavier seed has given the best hay yields.

Inoculation is also beneficial and the best way to do it is to secure some soil from a successful alfalfa field, and sow it at the rate of 100 to 200 pounds per acre. Manuring the land also helps the inoculation. The best way to apply the manure is before plowing for the summer fallow, the potatoes, or the corn.

A Nurse Crop hurts the alfalfa very much, so it should be sown alone. At the Dickinson Substation one plot sown in 6-inch drills five and one-half pounds of seed per acre, and without a nurse crop, produced 3920 pounds of hay in first cutting, and 1434 of seed from the second crop. While the next plot sown exactly the same, except that 40 pounds of hulless barley was sown as a nurse crop, produced only 1567 pounds of hay the first cutting, and not enough second crop to be worth cutting.

An acre or two is a good sized patch to experiment with.

THE MEN IN WASHINGTON WHO MAKE THE LAWS

Charles Cristadoro, Point Loma, California

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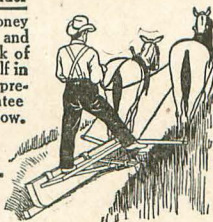
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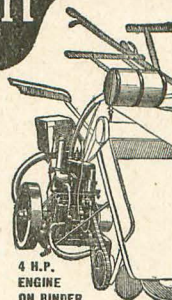
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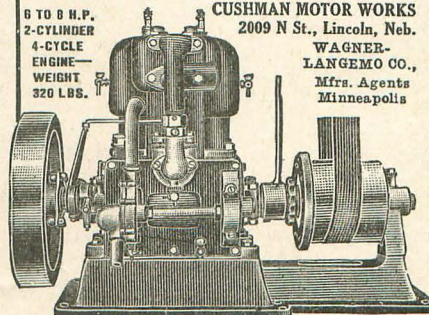


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or more of farmers securing membership and then making laws for the doctors to follow? Not for five minutes! Yet the lawyer, the professional politician, the manufacturer, the banker, in fact, anybody and everybody but the farmer, for scores of years have made laws for the farmers. Ever think of that?

If agriculture were an experimental industry of pickayune proportions, we can readily understand why and how things have been as they were and are and may be; but when we reflect for a moment and consider that the agricultural interests in dollars and cents overbalance by far all other interests combined, steamships, railroads and manufacturing, is it not time that men who have tilled the soil, sat in our legislative committees and helped, at least, to frame the laws that affected the tilled land and the tillers thereof.

A move is being made to send a President of an Agricultural College to Washington. There is one criticism and but one in connection with that movement, and it is this; viz: that that particular, sane, sensible, utilitarian movement was not begun 50 years ago, not only as to North Dakota but as to every state in the Union, viz: having a man in Washington who knew the land and the requirements of the people thereon.

So all this being fundamentally right and logical in every way, it's a sign of the times when a great and thriving state, like North Dakota, makes up its mind to send to Washington a man intimately connected with her interests, a man who understands her needs, a man who knows, whose reputation is above reproach, and a man who, at all times, will be alert to the best interests of the man at home who guides the plow.

May Dr. Worst succeed in his campaign and extend his usefulness to the farmer even beyond what has already been done by him. Dr. Worst in Congress is for the farmer to have a friend at court.

THE SEED PLOT

The Pure Seed Section of the North Dakota Experiment Station is planning the work of field crop inspection for the coming season so as to help the growers of seed for sowing purposes as much as possible. There is a large demand for pure bred seeds of high quality.

Now is the time to lay out the flax seed plot for the growth of a small amount of high grade seed for future use on your own farm. This is also the time to plan the increase field upon which to grow seed which will be clean and fit for sale as seed.

It will be difficult to improve the yield of flax, wheat and other cereals unless most farmers recognize that seed must be specially grown, selected and properly cured. Home grown seed is always best.

In flax, because of wilt and canker, it is strictly necessary to take steps to get pure bred seed, more than ordinarily resistant. The same argument holds for the cereals, because of special diseases in those crops.

The seed plot on which each farmer expects to increase the seed, either for his own use or for sale as seed, should be properly laid out to admit of examination without trampling down the flax.

Do it in this way: Prepare the ground so as to make a firm, clean seed-bed, well drained and well-worked for the kind of crop. In an eleven-foot drill, plug the seventh seed cup from each end of the drill. This will leave a strip where the empty shoe runs, thru which one may walk without interfering with the grain. It will allow you to pull out any bad weeds or scattered heads of other varieties difficult to remove by the fanning mill.

In so far as funds and time will permit, a crop inspector will visit the farms of all those parties who properly lay out seed plots. This field plot inspector will give special attention to brome grass and flax fields upon which seed is to be grown for sale as seed for sowing purposes with a view of aiding the owner to so purify the plots that there can be no question of the value of the seed for sale as seed when it is properly harvested and saved. This inspector will also be able to give advice on other matters with regard to weeds, and as to purity of crops in other lines as wheat and barley.

No seed will be sealed or certified under the sealing clause of the Pure Seed Law excepting it be thus field crop inspected.

We wish to begin to lay out the routes for the inspector. All those who have Seed Plots or increase fields which they would like to have examined should put themselves in communication with this office at as early a date as possible.

Address all correspondence regarding field crop inspection to H. L. Bolley, State Seed Commissioner, North Dakota Experiment Station, Agricultural College, N. D.

A HIGH COMMENDATION FOR NORTH DAKOTA PAINT WORK

The "Paint, Oil and Drug Review," for March 18th, quotes the remarks of Dr. G. W. Thompson of New York, a leading paint authority in America, at the Indianapolis meeting of the Association of Master Painters and Deco-

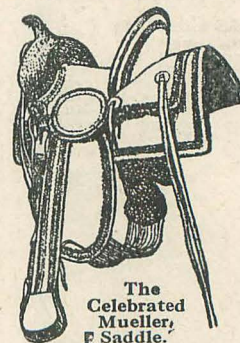
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Improved Powers Boring and Drilling Machine

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rators of United States and Canada, following the paper by Professor Ladd spoke as follows:

We all know the origin Dr. Ladd gives. Conditions were such that he on his own initiative, brought about change of legislation, and we all over this country were surprised when the thing happened. The legislation in North Dakota has been severely criticised from various quarters, and yet if we think of what that legislation has accomplished, think of the improvement that has been made in paints generally during the last ten or eight years, if we think of the improved tone in the paint manufacturing business, if we think of all the efforts which have been put out in the last eight years, say, in the study of paint problems, I think we can say that the legislation which was adopted in North Dakota produced effects of a phenomenal character, far beyond any conception that Dr. Ladd had at that time.

In other words, the manufacturers of paints have been driven to recognize a condition that there has grown up in this country a moral sentiment in favor of honest and better goods. I don't know, Mr. Chairman, that I shall say anything more than this, because this, it seems to me, is the monumental work which Dr. Ladd has done. This association has advocated the extension of Dr. Ladd's work and the passage in other states of similar legislation. That may be good or may not be good; that is for you to decide; you have decided in favor of it. But this is the important point, and I say with apologies to Dr. Ladd, who is in my presence and in the presence of this meeting that I am confident that the law of North Dakota would never have been the success it has been if it had not been for Dr. Ladd. (Applause.) And sometimes I have fear of similar legislation in other states that might be in the hands of men that were not as upright, and who did not have the integrity of purpose that Dr. Ladd has had. Now when we think that in that state of North Dakota this legislation started, this movement for pure paints or better paints began, and we think how this one idea has worked its way thru all the people in this

country engaged in the painting industry, I think we must be overwhelmed with the tremendous force of the moral sentiment which Dr. Ladd gave utterance to at that time and which has gone on spreading thruout the country. It did not start at Washington and cover the whole country; it did not start in one of the old established states, but it was started in one of the new states, one of the sparsely settled states of our Union.

I don't know where the next movement of this kind may start, not along paint legislation, but along some other line, but I would not be surprised if it were started in North Dakota in reference to other matters; I would not be surprised if it were started in some place similarly out of the way, because the great moral force behind the idea is the thing that carries it forward, no matter where it starts.

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Are you interested in North Dakota grown seed corn? We have the finest lot ever offered for sale in North Dakota. It is of high germination test, thoroly acclimated and the earliest varieties known.

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Insect pests.
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Remittances should be made by Draft, Post-office Order or Express Order.

Address all business correspondence to the
Lisbon office.

Vol. 15 MAY, 1914 No. 11

No man is wholly useless if he makes the lives of others brighter and pleasanter.

Engineering and agriculture go together well on the farm. With many farmers engineering is too much neglected.

Edison says: "Genius is two per cent inspiration and ninety-eight per cent perspiration."

It is worth while to endure a long cold winter in order to enjoy the beautiful summers of North Dakota.

"Every country dug its civilization out of the ground." Every country that neglected its soil sooner or later came to naught.

The person that would tear another down in order to build himself up would be a dangerous man were it not that sensible men take his measure at once and treat his frothings as such.

North Dakota will prosper permanently just about in proportion as her farmers engage in dairying or other forms of animal husbandry. The soil will need the manure, and the family will need the steady constant income. It will also give permanent all-year-around employment for men, the only kind of farm help that proves efficient on the farm.

Moisture is the determining factor that regulates the size of crop. In a semi-arid country more attention should be given to the conservation of moisture than to any other one thing connected with farm management.

This is not as difficult as to get rid of surplus moisture in flat humid countries. In other words North Dakota is exceedingly blessed by Nature in being a semi-arid country.

When country children are taught in the public schools the important things their parents have to do on the farm and in the home, they will have more respect for their parent's mode of life. The lack of this sort of teaching is largely responsible for the migration of young people from the rural districts to the cities. The best way to correct an evil is to remove the cause and the public school should pave the way to proper living as well as to exact thinking; to the work that must be done as well as to the things that please.

Dry-Farming, after all, is one of the biggest problems that confront two-thirds of the farmers of this country and practically all the farmers of the Great Plains Area. Weeds are mighty closely related to the Dry-Farming problem. In fact weeds make drought a reality under conditions where clean land does not suffer for lack of precipitation. Moreover, excess of rainfall is as bad as too little. Happily, North Dakota is blest with neither too much nor too little precipitation, where the land is plowed deep, properly tilled, and the ground kept reasonably free from weeds. For the dirty farmer, therefore, this is a droughty country, but for the painstaking, up-to-date farmer, there is seldom a lack of moisture.

If the money annually contributed by North Dakota citizens for worthless mining shares, rubber plantations stocks, banana farms, and kindred enterprises, were put out at six per cent interest, it would materially relieve the money market. Building lots at the north pole for summer residences would doubtless find takers. The people like to be gulled, apparently, and this fact generates schemes in the brains of naturally crooked men for the purpose of fleecing their fellows. The fact that they are able to score so many successes is not creditable to the "suckers" they are able to fleece. Those hunting for a short cut to wealth seldom succeed in finding it, while those creating this sentiment in others too often reap a rich harvest from their dupes.

Grain, vegetables, and fruits have diseases as well as animals and men. Professor Bolley of the North Dakota Agricultural Experiment Station has saved the farmers of this state mil-

lions of dollars already. Wonder if the professor and the College are given due credit for their services to the state? The plant doctor is one of the most important officials of the commonwealth. To provide remedies for our plant diseases, such as wheat smut, potato scab, fungous pests, etc., is to insure prosperity for our farmers. Otherwise, plant diseases would play hob with farm products. Dr. Van Es, Professor Shepperd and Professor Waldron also have been worth more annually than the College costs since their services have to do with livestock, trees, fruits, and vegetables, all of which are essential to prosperity and rural civilization.

The crying need of every agricultural section of the country, and more especially of states like North Dakota and others similarly situated, is a system of long-time credits with low rates of interest that will encourage families to own their own homes. In other words the tenant system is bad. The farmer should own his farm and live on and work it, either personally or have it worked under his immediate direction. Moreover, practically all the farm land should be owned and operated by the owners of the land. A state can well afford to make the purchase of land comparatively easy and then make a provision for instruction, by means of extension work and agricultural education, that will insure a progressive and economical and hence profitable agriculture.

This would insure many small farms. So much the better, for as a rule the smaller the farm the more intensive will be the cultivation and the more prosperous the community.

A system of credits might be arranged—long-time credit at low rate of interest—that would encourage young men to marry and settle on, say a quarter-section farm, or even an eighty-acre farm, to the great advantage of himself and the state. To say that this cannot be done is sheer nonsense. It can be done and our statesmen owe it themselves to give such constructive matters serious attention, even if regulating the height of telephone poles has to go over until the next session.

Sworn Statement of NORTH DAKOTA FARMER Made Under New Postal Law

Editor—E. F. Ladd, Fargo, N. D.
Publisher—W. G. Crocker, Lisbon, N. D.
Owners—W. G. Crocker, Lisbon, N. D. and E. F. Ladd, Fargo, N. D.

There are no bonds, mortgages or other securities outstanding against the NORTH DAKOTA FARMER.

NORTH DAKOTA FARMER,
By W. G. Crocker,
Publisher.

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(Seal)
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Livestock Department

FARM AND STOCK NOTES N. J. Shepherd

An over-fat hog is rarely a profitable parent.

Incompetent help is dear on the farm at any price.

Regular feeding and steady growth makes good wool as well as good lambs.

It is a pretty safe rule to select breeding pigs from the largest litters.

The cow will do better next year if well fed and carefully managed then.

The man who breeds draft horses judiciously need have no fear of the results.

A soft cloth is better to rub the dirt from a horse's legs than a curry comb.

A check in the growth of a colt means something off his value when he becomes a horse.

Horse-breeding involves considerable capital, but it offers large dividends when successfully handled.

For the principal ration shorts are more economical for sows and growing pigs than corn.

The dairyman who would build up a good reputation, must furnish a uniformly good quality of butter.

With sheep usually lack of thrift is induced by lack of care and lack of feed.

If the horse has anything faulty it will not grow less, but probably will grow more.

Fruit trees in cultivated soil suffer less from drouth and wind than do those in sod.

Thoro cultivation before seed time and perfect cultivation during plant growth aids materially in making good crops.

While a good cow will consume a good deal it is not every cow that eats a good deal that is a good dairy cow.

The products of the soil bring higher prices by being sold in the form of butterfat and the fertility of the soil is kept up to the highest point of production by the waste which is returned to the land.

While as a rule, sows with good length of body should be selected for breeding purposes, length of body being regarded as an indication of fecundity, yet length of body should not be selected at the sacrifice of quality.

As a rule heavy wood growth is not conducive to fruitfulness, while slow wood growth encourages fruit production. Light summer pruning is employed to check the wood growth and induce the formation of fruit buds.

No difference what the breed may be, a good calf may be developed into a poor milker, because of mistreatment. To inherit a tendency to be a good milker, and to have that tendency developed properly, are both necessary to the making of a good cow.

It is only a law of nature that pigs should make more economical gain thru the milk of the dams than in any other way, and it is also true that the sow will furnish nourishment for young at less cost for the raw material than any other animal on the farm.

Nitrogen, phosphoric acid and potash make up a complete fertilizer for the orchard. Nitrogen gives a healthy growth by promoting the coloring of the leaves and stems; potash is important in the woody structure and fleshy fruits of the plants, also in sugar formation; phosphoric acid promotes formation of seed and early maturity.

CLASSIFIED ADS.

One Cent a Word

Small advertisements will be classified under appropriate headings at the low price of one cent a word for each insertion. Cash must accompany all orders. Each initial or number must count as one word. TRY IT HERE.

LIVE STOCK

POLAND CHINA PIGS, also Shropshire sheep. Seed grain. GEO. N. SMITH, Amenla, N. D.

FAMOUS O. S. C. SWINE. Am now booking orders for fine pigs of April farrow. Price: \$18 each; \$35 a pair. All Stock recorded free. Shipping point: Mankato.

ROBT. A. HAEDT, Eagle Lake, Minn.

ASH GROVE FARM. Knudtson & Son, Props. Breeders of Pure Bred Percheron Horses and Short Horn Cattle, Both Sexes. Stock for Sale. Route 1 Fullerton, N. D.

J. S. BIXBY
RED POLL CATTLE. If you want dual-purpose cattle, I have the best. Rhode Island Reds, also in stock. LISBON NORTH DAKOTA

Mulefoot Hogs are Healthy, Hardy and Prolific. Jno. Dunlap, Breeder, Williamsport, Ohio.

REGISTERED HOLSTEIN HEIFERS
We offer for sale a few registered heifers from 16 months to two years old. Good individuals of excellent A. R. O. ancestry. Tuberculin tested. If interested write for breeding and prices.
BROWN & CASSELL, - - Ho5e, N. D.

SHORT HORNS
Young stock for sale. All registered.
Jim Uglum, - - - Bowbells, N. D.

Maple Lodge Large Registered Yorkshire Pigs, \$9 to \$12. Sired by Egeland Valliant weight 600 pounds.
Bourbon Red Turkeys.....\$1.75 to \$3.
Partridge Wyandottes, Eggs and Stock....\$1.50
Good Winter Layers All Stock Guaranteed
EDWARD KLEBAUM, - Egeland, N. D.

REGISTERED POLLED SHORTHORN CATTLE AND BOURBON RED TURKEYS.
Some good young Bulls for Sale.
Odessa Stock Farm, - Devils Lake, N. D.

Meadowlawn Farm. The largest breeders in North Dakota. Percheron Horses, Shorthorn Cattle, and Berkshire Hogs. Where quality counts. Address: A. H. WHITE, - - - Kramer, N. D.

For Large Yorkshires of either sex and bred gilts, address L. A. Knoke, Badger Den Stock Farm, Willow City, N. D.

Choice Poland China Hogs always on hand. Bred Gilts all sold. Register now for spring pigs, either sex; prices right. Thos. Forbes, Petersburg, N. D.

HIGH GRADE LIVESTOCK: Clydesdales, Double-standard Polled Durhams. Farm Horses and Drivers. Leal Stock Farm, - - - Leal N. D.

PERCHERONS FOR SALE
We are offering a choice lot of young mares and stallions, all raised here on the farm and thoroughly acclimated.

WHITE BROTHERS
Valley City - - - North Dakota

Purebred Registered
HOLSTEIN CATTLE
The Greatest Dairy Breed
Send for FREE Illustrated Book
Holstein-Friesian Assn., Box 135 Brattleboro, Vt.

ENVILLA STOCK FARM
Envilla Stock Farm, Cogswell, N. D. will quote you special prices on Angus Cattle, Shetland Ponies, Duroc Jersey Hogs, Wolf Hounds, Collies, Rat Dogs and other breeds, Angora Cats. All varieties of chickens; turkeys, geese, ducks, guineas, pheasants, rabbits, ferrets. Pets. Live Foxes, Skunks, Mink and Badgers.

MISCELLANEOUS

WANTED. Live Foxes, Skunks, Mink and Badgers, any time.
Envilla Stock Farm, - - Cogswell, N. D.

TWO GIRLS to do house work.
Grosvenor Farm, - - Casselton, N. D.

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's
Caustic Balsam
IT HAS NO EQUAL

For — It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. HUMAN CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A
Perfectly Safe
and
Reliable Remedy
for
Sore Throat
Chest Cold
Backache
Neuralgia
Sprains
Strains
Lumbago
Diphtheria
Sore Lungs
Rheumatism
and
all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—“One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills.” OTTO A. BEYER.
Price \$1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

Soundness is an essential feature in the make-up of a driving or riding horse when placed upon the market. A small blemish will not only often

lower the value of a horse, but will often prevent the sale entirely. Those who are able to pay fancy prices for horses want theirs free from defects of any kind.

Clean milking is positively necessary if the cow is to keep up a good flow of milk thru the lactation period. The milk glands like the muscles and other organs of the body are developed by practice and if the entire secretion of the udder of the cow at the time of milking is not removed the glands will soon lessen the flow.

as a butter producer.

Her production for the month of March, 31 days, was 2,360.7 pounds of milk, testing 2.43 per cent. This is equivalent to a butterfat production of 80.97 pounds for the month, or over 101 pounds of commercial butter. In other words this cow produced during the month 278 gallons, or 1,110 1-8 quarts of milk, an average of nine gallons or 36 quarts a day. She is still producing milk at this rate. At 5 cents per quart the milk for the month would have brought \$55.52. The cow is fed a daily ration of 40 pounds of ensilage, 6 pounds of hay and 22 pounds of grain. It will readily be seen that there is a cow that not only pays for her keep; but a handsome profit for her owner besides. —Courier News.

The Jersey



The sire is of vital importance. Buy a thoroughbred Jersey bull and grade up. Work towards the 400-pounds-of-butter cow. It costs no more to produce 400 lbs. of butter with a good cow than 200 lbs. with a poor one. Let us send you some Jersey facts.

AMERICAN JERSEY CATTLE CLUB
324 W. 23d St., New York

Wanted Men

For U. S. Meat Inspectors; U. S. Quarantine Service; U. S. Field Service; as U. S. Army Veterinarians, etc. Graduates are eligible to examinations for such positions. Fine salaries. Great opportunities for Successful Practice. Our College under U. S. Government Supervision. Established 22 years. Thoroughly equipped. Faculty of 16 instructors. Write for particulars.
INDIANA VETERINARY COLLEGE
837 N. Davidson Street Indianapolis, Indiana

TIMOTHY SEED

This seed won First Prize at Fargo, Jan. 20-24 1914. Price \$3.00 per bushel (45 lbs.).

H. G. Link, - - - Niagara, N. D.

MINNESOTA LAND

Don't pay rent when you can buy rich productive land close to station at \$12.50 to \$20.00 per acre. Small payment down, easy deferred payments.

D. J. McMahon, Crookston, Minn.

Make \$100 a season in spare time only and get all your own clothes free. Easy to get orders for men's suits with our beautiful samples and up-to-date styles. Write at once for free book of samples and styles, agents inside costs and retail prices, full information and our big, new offer. It's a wonderful opportunity.

KNICKERBOCKER TAILORING CO.,
Dept. 102 - - - Chicago

GIVE GERMAN DISTEMPER REMEDY a Trial. Your money back if not satisfied.
German Distemper Remedy Co., Goshen, Ind.

WANTED—Responsible party to take charge of our business in each county handling sale of Automatic Combination Tool, a combined wire fence stretcher, post puller, lifting jack, etc. Lifts or pulls 3 tons, weighs 24 pounds. Sells readily to farmers, shops, contractors, etc. No experience necessary. Descriptive catalogue, prices and terms free upon request. Harrah Mfg. Co., Drawer O., Bloomfield, Indiana.

WANTED to hear of a good farm or unimproved land for sale. Send description and price.
Northwestern Business Agency, Mpls, Minn.

SALESMEN. \$75 to \$100 weekly selling our line of Oils, Greases, Paints and fast selling specialties. Salary or commission. Warren Refining Co., Cleveland, O.

SALESMEN. OLD established Paint and Varnish House offer Canvassers to consumers \$30 to \$40 weekly introducing new product. Sells on sight. No competition. The Finishing Products Company, Cleveland, O.

LITCHVILLE COW MAKES RECORD

"Eern Mira Hengerveld," a Holstein cow owned by A. A. Johnson, residing west of Litchville, is making a record

W. F. JACOBS Livestock Auctioneer

Thorely Posted on Pedigress

Terms Reasonable LISBON, N. D. Write for dates

ST. PAUL UNION STOCKYARDS CO., SOUTH ST. PAUL, MINN.

Comparison of Receipts and Shipments of Livestock for April, 1914.

Receipts							
Railroads	Cattle	Calves	Hogs	Sheep	Horses	Total	Cars
C. R. I. & P.	615	343	1128	21	32		46
C. G. W.	1418	747	4452	1123	81		157
C. M. & St. P.	4060	1304	13265	2164	44		487
M. & St. L.	2471	771	8683	36	52		237
C., St. P., M. & O.	3440	1478	16232	538	73		291
C. B. & Q.	106	100	967	63			18
M. St. P. & S. S. M.	3490	2241	16161	412	27		383
Gt. Nor.	7783	3967	31527	7392	8		857
Nor. Pac.	3969	1068	12146	10946	99		372
St. P. B. & T.							
Driven In	946	115	960	91	36		
Total	28298	12164	105521	22786	452		2848
Inc. over 1913		135	15344	8336	185		296
Decrease	825						
Jan. 1 to date	119428	37750	491137	175273	1847		12664
Inc. over 1913	9987		95634	52139	205		1971
Decrease		1037					
Average Wts.	793	232	226	92			
Shipments							
C. R. I. & P.	544			178	5		20
C. G. W.	1366	107			12		55
C. M. & St. P.	6368	1302	15204	10163	56		449
M. & St. L.	243						8
C., St. P., M. & O.	3894	1535	4126	54	126		195
C. B. & Q.	1032		8464	6224			151
M. St. P. & S. S. M.	967	125		1867	95		52
Gt. Nor.	2892	381		370	50		99
Nor. Pac.	1080	175		314	41		52
St. P. B. & T.							
Driven Out	415	208	208	4	156		
Total	18801	3835	28002	19174	541		1081
Inc. over 1913		73	6639	5938	176		98
Decrease	2910						
Jan. 1 to date	72291	8700	136712	120948	1869		4426
Inc. over 1913			41362	3378	259		657
Decrease	2421	1149					

LIVESTOCK SPECIAL

A livestock special train will be run over the branch lines of the Soo railroad in North Dakota. This will bring good types of stock within driving distance of the farmers of this territory.

The North Dakota Experiment Station will furnish the lecturers and the livestock, which will include good types of beef and dairy cattle, lard and bacon hogs, and sheep. The livestock will either be unloaded or brought onto flat cars at each stop and the stock used in illustrating the relation of type and performance. With the good animals right before the audience, it will be possible to make plain many points that could not be imparted in just a lecture. Discussions will also be given on the care of these different classes of stock as well as feeding.

The interest in stock-raising is quite keen the state over, and this will be a splendid opportunity to learn the value of the different kinds of stock, the conditions to which they are adapted, and what it is necessary to have in the way of feed and shelter in order to secure good results.

It is important that in going into stock, the right start is made, and this will give an opportunity of getting just this kind of information.

The lecturers will include some of the best livestock men in the country, so that the best information obtainable can be secured at the train.

The stops at each place will be about two hours, and there will be something doing every minute, so those who attend will need to be prompt.

The first meeting will be held at Cogswell on the morning of June 8th. The succeeding meetings will be along this branch of the Soo to Drake, then on the Fordville Drake branch to Fordville, and from there along the wheat line to Kenmare, and finishing up on the Flaxton branch. Forty towns will be visited.

BIG CAMPAIGN AGAINST HOG CHOLERA

Richard Hamilton Byrd

Arrangements are being made this spring for an anti hog cholera campaign in the middle west and south on a more extensive scale than has ever been attempted before. After considerable research work the Department of Agriculture has developed, as is well known, a most effective hog cholera serum, which it is intended to use in the Department's campaign against the disease. Use was made of the serum last year in Indiana, Mis-


souri, Iowa and Kansas. One county was selected in each state and the quarantine regulations were strictly enforced by the state's agricultural commission. It was not until August, 1913, that it was possible to give the work a satisfactory start, but taken even this late the results were considered remarkable. The loss from hog cholera from the states mentioned, two years prior to the experiment, had been almost 19 per cent. The losses the previous year had amounted to over 25%. Started out late as the anti hog cholera campaign was, the total loss last year was reduced to 14 per cent. Of the hogs inoculated very few were lost at all, and in the cases where they did die there was some particular cause for the deaths, such as having made the inoculation after the disease had gained too much of a start.

One county in each of the various states was selected as a unit, and when there was a report of hog cholera inspectors were sent instantly to the infected farm. The well hogs were separated from the sick ones and protective inoculation was commenced. As soon as possible all of the hog herds surrounding the infected farm were given a protective inoculation, the idea being to make a cordon of im-

mune herds around the focus of infection. This scheme worked excellently, so that this year it is intended to extend the work materially, particularly in view of the \$500,000 appropriation to be available under the Agricultural Appropriation Bill recently passed by Congress.

The Department proposes to supplement the inoculation work by a stricter supervision of the private manufacturers of hog cholera serum. This will require quite a number of men and the co-operation of the state agricultural colleges and veterinary inspectors of all the states in the experimental area.

GALLOWAY
Sold Direct From Factory to Farm
30 Days FREE Trial
Just put your name and address on a postal card and get my new Separator book free.
Saves \$35 to \$50
On the latest, most modern, most sanitary cream separator built. Gearing runs in a constant bath of oil and all enclosed, dust and dirt proof. Closest skimming, new type disc bowl. A lot of New Sanitary features not found on other makes. One-half the price of the old style, cumbersome machines selling through agents and dealers. Buy direct from factory and save big money. Get my new Catalog. A postal brings it.
Wm. Galloway, Pres.
William Galloway Co.
983 Galloway Station, Waterloo, Ia.



ST. PAUL UNION STOCKYARDS CO., SOUTH ST. PAUL, MINN.

Comparison of the Origin and Disposition of Livestock for April, 1914

Origin of Livestock Received						
States	Cattle	Calves	Hogs	Sheep	Horses	Total Cars
Minnesota.....	22127	10202	73345	6106	166	2061
Wisconsin.....	1640	1393	9410	127	2	203
Iowa.....	.....	.....	.....	.....	132	9
Far South. . .	.....	.....	.....	.....	38	2
So. Dakota ...	400	54	5969	.....	.....	98
No. Dakota...	2709	335	16296	1874	70	339
Montana.....	489	.....	253	14679	44	91
Far West.....	.....	.....	.....	.....	.....	.....
Manitoba&NWT	784	19	248	.....	.....	41
Far East. ....	.....	.....	.....	.....	.....	.....
Returned.....	149	161	.....	.....	.....	4
Totals.....	28298	12164	105521	22786	452	2848
Disposition of Livestock						
So.St.PaulP'k'rs	10289	6767	76649	11094	.....	.....
Cy. & St. Butch.	416	58	3523	.....	.....	48
Outside Packers	343	633	21926	279	.....	234
Minnesota.....	4408	619	335	409	312	181
Wisconsin.....	2286	187	428	534	217	106
Iowa.....	1989	296	48	178	.....	75
Nebraska.....	165	72	.....	.....	.....	6
Kans. & Mo..	.....	.....	.....	.....	.....	.....
So. Dakota....	3702	1040	.....	.....	.....	124
No. Dakota....	1601	171	.....	.....	1	48
Mont. & W. .	1401	754	.....	.....	1	51
Far South.....	.....	.....	.....	.....	.....	.....
Manitoba&NWT	32	.....	.....	240	.....	2
Mich. & E. Can	59	1	1427	.....	10	20
Chicago.	1379	.....	315	17534	.....	145
Ills. (ex Chicago)	881	4	.....	.....	.....	35
Eastern Points	139	.....	.....	.....	.....	6
Returned.....	.....	.....	.....	.....	.....	.....
Totals	18801	3835	28802	19174	541	1081



Poultry Department



HISTORY OF THE PLYMOUTH ROCK FAMILY

Michael K. Boyer

The American Standard of Perfection, in the 1910 edition, recognizes twenty distinct varieties of six different breeds, in the American Class.

These are divided up as follows: Plymouth Rocks—Barred, White, Buff, Silver-Penciled, Partridge and Columbian. Wyandottes—Silver, Golden, White, Buff, Black, Partridge, Silver-Penciled and Columbian. Javas—Black and Mottled. Dominiques—Rose Comb. Rhode Island Reds—Single Comb and Rose Comb. Buckeyes—Pea Comb.

The entire class are recommended for broiler and roaster purposes, and winter egg production. In the list all sorts of fancies can be satisfied. In colors there are white, buff, golden, black and red, as well as bars and stripes and spangles. In combs there are single, rose and pea.

The Dominique enjoys the distinction of being the first American breed. There seems to be some doubt about its origin. A few writers some years ago claimed it came from the Island of Dominica, but this was never proved. Others tried to associate it with the White and Cuckoo Dorkings of England. McGrew finds in them traces of Hamburg blood. The Standard weights are seven pounds for cock; six pounds for cockerel; five pounds for hen; four pounds for pullet.

Until the introduction of the other varieties of the family the Barred Plymouth Rocks were known solely by the title Plymouth Rocks. Their history extends back to 1847, at which time a fowl was produced having the Cochins, Dorking and Malay bloods. But the production was nothing more than a mongrel. To D. A. Upham, who exhibited the first Barred Plymouth Rock at the Worcester (Mass.) show, in 1869, belongs much credit for the breed, but Joseph Spaulding, of Connecticut, enjoyed the distinction of making the first cross that produced the breed. This cross was made by using a single-comb Dominique male on a Black Cochins female. Subsequent crosses used for making the breed were Black Spanish (which, by the way, were more of a Minorca type, having red instead of white faces) crossed on White Cochins, and top-crossed by

single-comb Dominiques. The Gray strain was made by crossing Black Spanish males with Gray Dorking females, and top-crossed by crossing Black Spanish males with Gray Dorking females, and top-crossed by Dominique. Another cross was Dominique on Shanghais. And, also White Birmingham crossed on Black Java, and top-crossed by Dominique. In 1876 Judge H. B. May, of Natick, Mass., used a cross of Light Brahmas, White Cochins and Dominiques, and later crossed them with Game, which was very successful.

The history of the White Plymouth Rock dates back to about 1875, when, it is recorded, Oscar F. Frost, of Maine, hatched some white chicks from his Barred Plymouth Rock eggs. These chicks not only retained their white plumage when they grew up, but also had the Plymouth Rock shape and characteristics. It took several years of mating and selection to establish them so they would breed true.

When the Buff variety was introduced it seemed at once to establish itself with the poultrymen.

There were two original strains—one known as the Wilson, and the other the Fall River. The former was originated by J. D. Wilson, of New York State, he using Buff Cochins and Light Brahma blood, and the latter strain was produced by R. G. Buffington, Dr. N. B. Aldrich, and others at Fall River, Mass., by crossing Rhode Island Reds and White Plymouth Rocks, also from selected Rhode Island Reds that showed buff color and had good Plymouth Rock shape. The writer visited Mr. Buffington about 1895, and all of Mr. Buffington's predictions came true. The breed was first exhibited in 1890, by Buffington.

The Wilson strain was exhibited for the first time in 1892, and a year later Mr. Wilson made an excellent exhibit at the World's Fair, Chicago.

Of the Silver-Penciled and the Partridge Plymouth Rock origin the writer has no data at hand, save that it is

claimed that the Silver-Penciled Hamburgs played an important part in the former, and the Partridge Cochins in the latter origin.

The Columbian Plymouth Rock history shows that in 1902, F. M. Clemans, of Ohio, made his first cross, and three years later Geo. H. Sweet, of New York, made his first cross. Neither party knew anything of the other's efforts. Mr. Clemans was first to bring his production before the poultry world, terming them "Light Plymouth Rocks."

Mr. Sweet began by crossing the Light Brahma with White Plymouth Rock, using some Columbian Wyandotte blood to strengthen the color.

In all the varieties of the Plymouth Rock breed, the shape and general characteristics are identical. The entire family belong to the general purpose class, invaluable for market poultry and egg production. In size the Plymouth Rock is intermediate between the Asiatic and Mediterranean breeds. They are layers of brown eggs. The Standard weight of the Plymouth Rocks are, cock, nine and a half pounds; cockerel, eight pounds; hen, seven and a half pounds; pullet, six pounds.

POULTRY NOTES

For indigestion, or so-called cholera, tincture of iron and milk are recommended. Use about one-eighth ounce of the tincture to every one and a half gallons of sweet milk. Place this where the birds may partake of it as they wish.

Wheat is the cheapest grain to feed, no matter at what price it is sold.

PETERSON'S Barred Rocks

SWEEPS FARGO CLEAN

Of all First and Special prizes. Once again my Barred Rocks prove their superiority at the North Dakota State Show at Fargo, Jan. 1914, by winning as follows:

1st, 2nd, 3rd Cock; 1st, 3rd, 4th Hen.

1st, 2nd, 3rd, 4th Cockerel.

1st, 2nd, 3rd, 4th Pullet; 1st Pen.

Cash special for best display and Silver medal for Best Barred Rock in the Show.

Circular free; it tells all about my fine matings. Write today

ENOCH J. PETERSON
Alexandria, - Minnesota
Formerly: Peterson Bros., Harwood, N. Dak.

1900-C. C. DIBLEY & SON-1914

QUALITY—UTILITY—EXHIBITION

Single Comb Rhode Island Reds, Barred Plymouth Rocks, White Plymouth Rocks, Light Brahmas, Buff Wyandottes.

BIRDS OF HIGHEST QUALITY: Winners in the following shows 1913: Minneapolis and St. Paul, Minn., Fargo & Valley City, N. D. Mating list free. **WOLVERTON, ROUTE 1, MINN.**

It comes the nearest to a complete ration. But it should not be fed exclusively, but always given with equal parts of corn, by measurement. Some give a grain mixture of equal parts of wheat, oats and corn.

Do not allow the young ducks out on streams where there are pike or eels. Rats are especially fond of young ducks, and will thin out a brood in a single night. If ducks are missing by ones and twos mysteriously, have a suspicion on Neighbor Buttercup's sleek-sided black "Thomas," who lies so serenely on the window-ledge—oh! so harmless, very harmless. If you suspect, wait for him with one of those air rifles which may be obtained very cheap nowadays, and just land a slug on him at twenty yards, from a place of concealment. It simply paralyzes him with fear. Then land him another. He will then take a seven-foot fence at a flying leap, and it will be months before you see Thomas that way again.

One of the most successful turkey-growers of New England tells, in a recently published article, how he has been able each year to gain double value for all the turkeys sent to market. He says that from start to finish his turkeys were continually fed with the best quality of old dry wheat and cracked corn; that no matter where they might roam, he saw to it that they had a full feed of this kind of grain once in each twenty-four hours, and whenever there was a rainfall he visited them twice each day, and fed them as much as they would eat. This kept them continually growing, preventing their wandering about thru the wet in a useless search for food they could not obtain.

The squab broiler is most in demand from middle of January to the first of May, beginning at seventy-

Hatching Eggs For Sale

BARRED ROCKS

Bark's Bred-to-lay Strain.

WHITE ORPINGTON, S. C.

Kellerstrass Strain.

WHITE LEGHORNS S. C.

Ferris Strain.

Setting of 15, \$1.50; two settings, \$2.50
Special rates on incubator lots.

MRS. Wm. RYAN,

Pekin, - - - N. D.

five cents and ending at ninety cents per pair for this period. The color of meat of small broilers does not affect price as in larger stock, altho yellow meat are much preferred by dealers and consumers. This stock must be quick grown, straight breasted and plump. Hump-backed, stunted, or crooked breasted birds are not wanted and will never bring highest quotations.

Success comes thru proper care and attention to the hens, not as the result of foolish coddling, over-care and over-feeding. Proper protection from the elements, dry floors, plenty of dry litter, and small grain fed in the litter are the playing cards that win fresh-laid eggs in winter.

Early goslings begin to arrive about the latter part of May. They should dress not less than nine pounds each, and the highest figures the past few years have not exceeded thirty cents per pound, dropping gradually to fifteen and sixteen cents by mid-summer, when twelve-pound birds are the size most in demand. Such stock should be dressed the same as young ducks, and the same is true with them as with ducks in reference to shipping alive.

A good many like their turkeys hatched in April, but the greater majority get them in May, mainly because the eggs incubate better under a turkey hen than anywhere else. When the turkey chicks are hatched, they should be allowed to become fully nest ripe before removal. Too early removal is frequently the cause of many losses. The turkey hen requires a roomy coop of considerable height, but it must not be draughty.

It is estimated that if meat is worth twenty cents per pound, a dozen eggs will have a nutritive value of thirty cents, or be equivalent to one and one-half pounds of meat. This food is in a state to be both very palatable and easily digested, a consideration not to be forgotten in estimating the real value of eggs as food. It is further estimated that it takes five and one-third pounds of corn to produce a pound of pork, and but three and one-tenth pounds of corn to produce a pound of eggs. If the estimate be correct then there would be a greater profit in feeding corn to hens than to pigs, to say nothing of the greater healthiness of eggs as food.

The best fattening grains for turkeys are corn, wheat and oats. An occasional feed of barley is also bene-

BRED TO LAY

And prize-winning strain. Barred Plymouth Rocks, White Orpington Indian Runner Ducks; Silver Spangled Hamburgs; Single Comb White and Brown Leghorns. Stock and Eggs at Reduced prices.

F. C. MITCHELL CROOKSTON, MINN.

WHITE WYANDOTTES. Every farmer should raise white chickens, because white chickens improve the looks of a farmyard more than any other color. Do you get that—then why not get a white chicken that combines more good points than any other. Eggs for sale. E. M. White, Valley City, N. D., R. R. No. 1.

HATCHING EGGS

Rose Comb Reds, Single Comb White Leghorns and White Wyandottes. \$1.00 per 13, or \$1.50 per 15 prepaid. Day-old chicks. Orders booked. Also have Indian Runner ducks and Mammoth Bronze turkeys.

Jos. O. Berg

Hendrum, - - Minn.



Rose Comb Red Cockerels

Rose Comb Red Cockerels for \$1.50; and Fawn and White Indian Runners, \$2.50 per pair, if taken now.

Mrs. Ira Heidebaugh, Pleasant Lake, N. D.

White and Columbian Wyandottes, Light Brahmas, and S. C. White Leghorns
Over 30 years a breeder. Stock and eggs for sale. Michael K. Boyer, Box 27, Hammonton, New Jersey.

S. C. Buff Orpingtons, S. C. Black Orpingtons, M. Pekin Ducks and Indian Runner Ducks
Maude I. Matthews - Larimore, N. D.

White Rock and Columbia Wyandottes and Buff Orpingtons. Stock and Hatching Eggs in Season. O. A. Barton, Valley City, N. D.

Latta's S. C. Rhode Island Reds. First Prize Winners wherever shown. Stock and Eggs for Sale. J. G. LATTI, Wheatland, N. D.

Plum Grove Stock and Poultry Farm

Breeders of Red Polled Cattle, R. C. White Leghorns and Buff Wyandottes. Stock and Eggs for Sale. V. E. GRANT, Prop., Cuba, N. D.

POLAND - CHINA PIGS

THE BIG, EASY-KEEPING KIND

Early spring pigs for sale at \$8.00 each, \$15.00 a pair, or \$21.00 a trio (not related.) Eggs for hatching from pure-bred Turkeys, Ducks, Chickens, etc.

MRS. EMMA TIMMERMAN

R. No. 1, - - - St. Peter, Minn.

EGGS FROM BUFF ORPINGTONS AND S. C. RHODE ISLAND REDS at special low prices Bred to lay. F. M. PEZALLA, Cavuga, N. D.

BRED TO LAY AND WIN

If you want Quality write

Enoch J. Peterson, Alexandria, Minn
Formerly Peterson Bros., Harwood, N. D.

HAUSMANN POULTRY FARM

Breeders of W. Wyandottes and S. C. W. Leghorns
Hillsboro, - North Dakota

WHITE WYANDOTTES. If you want eggs from an early maturing, heavy laying, prize winning strain of White Wyandottes write me. I am developing a special laying strain by use of the trap nest. Prices reasonable. Write
M. C. JAMES, Valley City, N. D.

Silver Campines and Buff Wyandottes. Great layers of large white eggs. Eggs and young stock for sale in season. E. K. Myhre, Valley City, N. D.

Advertise Your Breed of Poultry It Would Pay You

FOR SALE. M. B. Turkey Toms, raised from our Diploma Stock, \$5.00 and up; also Eggs from 26 varieties poultry. Catalog free.
L. GULDEN, Osakis, Minn.

ficial, altho turkeys do not always take kindly to barley.

The white-shelled egg fad seems to strike the markets more generally every year. At one time the fad applied only to New York City, but it has since drifted to Philadelphia and other large eastern cities. These fancies of the market, however, are worth catering to. They mean select and fancy trade, and that is the patronage that pays the best price.

STUDIES IN POULTRY HOUSE CONSTRUCTION

The Office of Experiment Stations, Department of Agriculture, has received a report of studies of 5 types of poultry houses erected by the New Jersey Station. Briefly summarized the report shows: A house with a large area of glass and no muslin has a high moisture content and low temperature, accompanied with rapid changes. An extreme open front house furnishes ideal conditions, providing the birds are protected from rain, snow, and drafts. A house, the front of which contains some muslin and glass, is a very efficient type. Hollow tile construction makes a very desirable house, but it is doubtful whether at the present prices of tile and mason labor the resulting increased cost warrants its use. A roosting closet with double walls is desirable in shed roof laying houses. The providing of ample means of properly ventilating shed-roof, paper-covered houses adds greatly in reducing temperature during spring and summer. Tongues and grooved boards for the outside walls when covered with a layer of building paper are reasonable in cost and supply in a great measure the nonradiating qualities of a double wood wall.

THE PHILIPPINE CHICKEN

We people who are always kicking about the small laying capacity of the average American fowl, with her 60 or 70 eggs per year, ought to keep quiet when we learn that the Philippine hen seldom lays more than 8 eggs in one laying period and often becomes broody after laying 5 or 6. A study has been made of the physical characteristics and utility value of the native Philippine chickens, by agricultural officials of the Islands. The fowls were found to have no established and well-defined type, and no fixed color. Their shanks are not feathered. The skin is usually white, but sometimes yellow or black. The hens are fairly good sitters and mothers. Practically no attention has been

given to breeding, except for the production of game cocks. It has been demonstrated that native hens will not produce profitably if confined to the yard. The weight of the native

chicken is surprisingly small, and it is thought that because of this there is little chance of developing a meat breed by crossing the native chicken with the meat breeds of other lands.

School and Home

ELEMENTARY AGRICULTURE

Miss Ura Leader,
Ruraldale, N. D.

Dear Miss Leader:

We are now enjoying one of the very interesting and delightful seasons of the year. I trust you and your pupils may profit to the fullest extent by the coming of summer. This is the season above all others when we should look to God's great text-book for instruction and inspiration. Now wonderful activities are taking place. The soil is teeming with new life constantly springing into existence. The air is filled with life and fragrance and beauty. Help your boys and girls to see these things. I know it is a well-established precedent and time-honored custom that all school instruction must be given within the cramped and too often dingy walls of the school-room. But there can be no sane or logical reason for this. Take the boys and girls out into the open, into the Creator's most excellent school and laboratory and there point out some of the lessons they may learn.

Your seventh grade I believe are to study the effects of cultivation. Examine dry, cracking and weedy ground in different localities. As the soil dries at the surface it shrinks and cracks. This allows the warm, thirsty air to circulate deep in these crevices, sucking out enormous quantities of moisture. Soil that is firm clear to the surface allows water to rise even to the top by capillarity. Illustrate this principle by use of lamp wick, loaf sugar, etc. Soil cultivated at the surface does not allow this action. Why?

All plants must eat and drink else they die. (In many ways indeed plants and animals are alike. Think of it.) The process of taking in soil water thru the roots, bearing food material in solution, then passing from the leaves into the air is known as transpiration.

No person, child or adult uneducated would ever surmise the enormous amount of water passing

into the air by transpiration and evaporation. Good authorities inform us that from three hundred to eight hundred pounds of water is used in the production of a single pound of dry vegetable matter. In a region where soil water is none too plentiful we should be taught to conserve it. Therefore weeds should not be allowed to grow, at least, as plentifully and luxuriantly as they do. Cultivation is the best method of keeping them down. Weeds are thieves, robbers, housebreakers, criminals. They should not be allowed their liberty.

A farm well cultivated presents a neat and tidy appearance, thus speaking not only for the industry of the owner, but for the right kind of citizenship in general.

After visiting and studying the dry, uncultivated places, go to thoroughly cultivated corn and potato fields or gardens and note and discuss differences.

Eighth Grade

The greatest institution in the world is the home. It has most to do with molding the life and character of men and women. Let the school do all it can toward making the home pleasant, sanitary, happy, and conducive to moral uplift.

In this rather short letter it is impossible to go far into detail, yet I may suggest a few things on which the school, yes, the school may profitably concern itself.

1. Straightening the yard.

Moving all unused machinery to one definite place. Better of course, a shed.

Raking and clearing the yard of all sorts of rubbish.

2. Planting and caring for a few trees.

Even a little shade adds much to summer home comfort.

3. Seeding a lawn.

Comparatively few farm homes have lawns. Brome grass makes a very good lawn where water is not available.

4. Keeping the house clean.

The satisfaction and real benefit of an otherwise good meal is often lost to a degree by its being cooked and served in poorly washed dishes.

This discussion can be carried to floors, walls, clothing, bedding, etc.

5. Keeping the person clean.

Bathing of body.

Washing of face, hands, teeth, etc.

6. Reading, music, and entertainment.

The teacher who can develop a taste on the part of her pupil for good reading, good music and wholesome, enlivening home entertainment is a pronounced success even tho she does not accomplish everything set down by the textbook writers.

This is the final letter of the season. I trust you have enjoyed the series and that you have been benefitted. I have followed the outline of the State course quite closely as you have doubtless observed. It has been my purpose to give you a little broader and more comprehensive view of this splendid subject of agriculture. I have tried to show you that it is not mere utilitarian but that it is educative, broadening, elevating, cultural; "that it lends interest with information, gives altitude with attainment."

Trusting that the year has been a successful one and that the experiences gained may prepare you for better service, I am

Yours most sincerely,

GORDON W. RANDLETT.

BOYS' ALFALFA CONTEST

A Boys' Alfalfa Contest has been arranged for North Dakota boys by the Extension Section of the North Dakota Experiment Station, in co-operation with the County Superintendents.

Boys in the Lead. The boys of North Dakota have rapidly spread corn growing all over North Dakota, and really put the state into the Corn Belt. Last year a boy produced a yield of 107 bushels of matured corn on an acre, and the boys have been winning nearly all the prizes at the Corn Show. Now the boys are to be turned loose on alfalfa.

The Conditions of the Contest are that any boy of 12 to 18 years of age, who has attended school during the year, is entitled to enter. It is to be an acre contest, and six pounds of good hardy seed will be furnished any eligible, for \$1.00.

Full Instructions for sowing, as well as rules of contest, are given in the March Extension, which can be secured from the Experiment Station, or from the County Superintendent. The six pounds furnished will be enough for sowing an acre.

How to Sow. It should be sown with the drill, set to run shallow, so as to get the seed well covered and still not too deep. The drill will likely not sow so small an amount as six-pounds. The seed can be diluted with half a bushel of coarse cornmeal, or roasted wheat, or roasted millet seed, and then set the drill to sow half a bushel per acre.

Inoculation is Quite Important and the best way to do it is to secure some soil from a field growing alfalfa, spreading at the rate of one to two hundred pounds per acre, and harrowing it in.

The Best Land for the alfalfa is summer fallow, potato or corn land. The alfalfa wants a firm and clean seed bed, so do not plow, but disc early to start the weeds, and harrow every two or three weeks till early in June; disc shallow just before sowing the alfalfa. If the weeds get taller than the alfalfa clip them.

How Judged. There are two ways of judging: First by having a judge visit each field. This requires considerable expense in transporting the judge over the county. If the County Superintendent can defray these expenses, the Experiment Station will furnish the judge. The points that will be considered in this judging are: Yield, 60; Evenness of Stand, 20; Freedom from Weeds, 10; and General Appearance of the Field, 10; The second method is to gather a bundle of alfalfa, tie it together loosely, and hang it up in a shaded place to dry. Before exhibiting, steam the bundle for a few minutes; this will soften the leaves, so they will not rattle off, and the bundle can be re-arranged in a neat shape. The judging of the bundles will be done at the County Corn Contest. The following is the score card:

Color.....	30
Sweetness.....	25
Proper Degree of Maturity.....	10
Length of Stalks.....	10
Leafiness of Stalks.....	15
Appearance of Bundle.....	10

The alfalfa for the bundle should be cut when the alfalfa is about one-tenth in bloom. This is the stage at which the alfalfa makes the best hay.

Circulars on Growing Alfalfa will be sent the boys who enter the contest.

An Important Work. The boys who enter this contest will do much

to spread the growing of alfalfa, one of the most important crops that can be grown in the state.

Any boy who desires to enter should write to his County Superintendent.

FROM A SMALL BEGINNING

Lloyd Gravoos of Alexander, N. D. won first at the North Dakota Corn Show, on an exhibit of White Flint. The same sample was awarded first prize in the county Corn Exhibit held at Alexander last fall. The beginning of it all was the 600 kernels which were furnished him by Mr. Steffek, the County Superintendent, last spring, and the corn in turn was furnished the County Superintendent by the Extension Department of the Agricultural College.

Young Gravoos planted and cared for his corn, the first he had grown,

DAISY FLY KILLER



placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 6 sent by express prepaid for \$1.

HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.

See California

and her two great Expositions
FOR ONE DOLLAR

California will hold next year two great universal Expositions, one at San Francisco and the other at San Diego, in celebration of the completion of the Panama Canal and the joining of the Atlantic and Pacific Oceans.

To supply the demand for reliable and authentic information on California and these two Expositions, we have published two guide books; one on San Francisco, the Exposition and Northern California; the other on Los Angeles, San Diego, the Exposition and Southern California, also a lithographed view of San Francisco in colors (size 30x45 inches) a picture of the rebuilt city, including the Exposition. Each book is 6x9 inches, contains 150 pages and beautiful illustrations.

These two books and view give a comprehensive, honest history and description of the State, her principal cities, resources and her two great Expositions. Sent postpaid for a one dollar bill, money order, draft or check. North American Press Association, 1445 Hearst Building, San Francisco.

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Direct to User!

Moderate Price!

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Pleasanton, Kansas

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OPPOSITE CITY HALL

MODERN EUROPEAN PLAN

LOCATED IN HEART OF BUSINESS DISTRICT

RATES: Rooms with detached bath and shower bath—

One person 75c, \$1.00 and \$1.50 per day.

Two persons in same room, 50c extra.

ROOMS with private baths and toilets—

One person \$1.50 and \$2.00 per day

Two persons in same room, \$1.00 extra.

Send postal card for colored blotters.

WE AIM TO PLEASE

according to the instructions sent out by the Agricultural College, and secured results. It speaks well for McKenzie County that the first prize for the Northwestern part of the state should be secured by it.

Gravos has been well repaid for his effort. The seed was free; he secured \$15 in cash, and some other prizes at the McKenzie County Corn Contest. When the corn was being judged he watched very carefully so now he knows the points taken into account in judging corn. Next year he can select a better ten for sample. At the North Dakota Corn Show he won \$10, and what means much more, a beautiful blue ribbon souvenir representing one of the highest awards in a great state show, and he has enough corn to grow a good sized field, and it is home grown seed. These dollars and seed corn is not all that young Gravos got out of it. The self-confidence and knowledge that he can do things that are worth while, has done a good deal to make him a more effective citizen and a leader in his community. It is really wonderful what a few kernels of corn can do and especially when they go into a new country; and the Boys' Corn Contest has been a pioneer in corn growing.

Many times the father was sure that the corn would not grow, but the boy with his boyish enthusiasm, a few kernels of corn, and lots of grit, would plant the corn, and it proved truly a miracle. It would grow and get ripe, and the father would be converted, and then he got enough seed corn from the boy's corn patch to plant a field of corn the next year, and it never cost him a cent.

"Didn't think corn would grow till the kid planted his patch." can be heard in almost any part of the state.

A NURSERY

The most satisfactory room in a whole house to fix up is a nursery, because with a very small expenditure it can be made so exactly what its name implies.

The shops seem to have out-done themselves supplying the children with things to their liking. Wall-paper, china, screens, even rugs have been designed to please them.

There is no paper so pleasing in a nursery as the white-striped paper with a frieze of an endless procession of three small Kate Greenaway figures dancing with garlands of flowers between them. One little girl in green, one in pink and one in tan color. They are well drawn and give the effect of calm, well-poised action. One child who lived in a nursery

papered as described would run back to her room on entering the house, make a low courtesy and say, "Dance, dance ladies! Children are susceptible to their surroundings.

In a nursery papered with a pronounced frieze it is well to keep all other decoration in plain colors, that the child may not be attracted by too many things of interest about it, and lose the power of concentration on any one of them.

If a child is small there is nothing so pretty as white; white wood-work, white muslin curtains, a little toilet set of white china edged with a band of pink, or green, or gold, and rag rugs of pale shades.

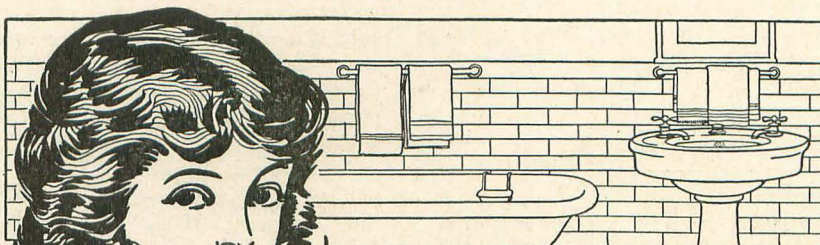
With older children, white and pale shades are not practical. Dirty little finger marks are too apt to appear about the room in unexpected places.

For a child over four or five or if there are several children in the family it is a good plan to use what is known as a landscape paper. Some of these have pastoral scenes, some have

Dutch landscapes with windmills and quaint figures typical of that country. On these finger marks make little or no impression, and the woodwork can be painted a dark cream or light tan color. A rug or carpet with a small figure will be found very serviceable. Spots or even little worn places do not show up as on a plain rug.

If the baby sleeps in the room with the older children it is a good idea to have a screen around its crib. If the screen is not too heavy it can be easily moved about to keep both sunlight and lamp light out of baby's face when asleep. The screen should be covered with creton to harmonize with the wall paper and rug.

Children's chairs come now in the most lovely designs. There is one made after a standard old New England model. It is strong, comfortable, charming in appearance, and helpful in developing a child's sense of beauty. You can also get leather chairs for children made like grown-ups' library chairs.

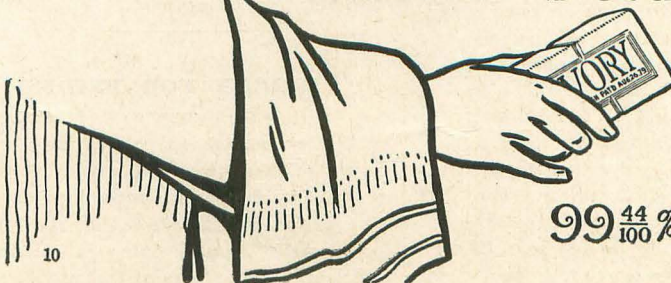


DO not think that a soap must be perfumed to be suitable for the bath and toilet.

This is true of some soaps. It is not true of Ivory.

There is no perfume more pleasing than the clean, natural odor of Ivory's high grade materials. Ivory Soap is so sweet and pure that to add a perfume to it would be like "painting the lily."

IVORY SOAP



99 ⁴⁴/₁₀₀ % PURE

Children's desks are now made in simple good designs and are very cheap.

It is well to let a child have bookshelves of its own because if its books are within easy reach they become more readily a vital part of its life.

There should be always plenty of deep roomy shelves in a nursery for the toys and odds and ends that collect in all children's rooms in spite of all the best of nurses or mothers can do to keep them free from trash. And the trash often gives a child more pleasure than its handsomest toys.

There was once a child whose mother put thumb screws along the shelves in the nursery indicating just where each toy belonged. After the baby was asleep the mother would rearrange the toys that had been misplaced during the day, and long before the little thing could read she unconsciously got the habit of putting things back where she invariably found them in the morning. And so the foundation of a life long habit of orderliness was formed without a word of criticism or nagging.

It is most important that a small child should live in a room furnished with care and taste, so that it may easily learn to love, unconsciously, what is beautiful and fitting.

FRESH EGGS GUARANTEED

The farmers about Mott have organized a co-operative poultrymen's association. Each farmer will guarantee his eggs. They will be stamped with his number so that in case a bad egg does show up it can be traced back to the farm it came from. The association will in turn guarantee the eggs. The plan is to sell direct to the consumer. Already a labor organization in an eastern city is trying to contract for forty cases a week.

The storage and marketing will be taken care of thru the local co-operative creamery, of which nearly all the members are patrons.

The breeding and marketing of pure bred fowls will be made a part of the business.

The farmers figured that they would in this way cut down the cost of advertising and they are right. They are however, taking even a bigger step. When they guarantee the eggs and sort them they will have a standardized product. This is one of the most essential things in order to market to advantage.

An investigation by the Department of Agriculture brought out the fact that, take the average run of eggs, there are the following losses: Dirties, 2 per cent; breakage, 2 per cent;

chick development, 5 per cent; rotten eggs, 2½ per cent; mouldy and flavored eggs, ½ per cent, shrunken or held eggs, 5 per cent, making a total loss of 17 per cent, or two eggs out of a dozen.

It is not only this loss, but it throws a reflection on the others; this loss alone in North Dakota amounts to over half a million dollars a year.

The North Dakota Experiment Station encourages the co-operative organizations in production and marketing. It will eliminate waste and induce the producer to put his best efforts toward producing quality.

Denmark has built up its poultry industry on this very plan of each farmer belonging to a co-operative poultrymen's association, and guaranteeing the eggs that he furnished. This has brought increased prices and this kind of eggs help develop a market for more. The egg that is just an egg does not appeal very strongly. There is too much conjecture as to what will come forth when it is opened. The guaranteed egg will be preferred every time, and when they cost 17 per cent more they are just as cheap as the common eggs, and aside from that, one is saved the surprise party that the other is liable to turn loose.

At Barnum, Minn., the farmers are selling their eggs co-operatively thru the creamery. They are receiving from three to eight cents more per dozen for their eggs than the ordinary eggs bring.

The standardizing and guaranteeing of farm products is one of the best ways of securing a better market. In fact, the market will come to the community that does this, as witness the application that has already come to Mott for 40 crates a week. This would never have come, but for the fact that a number of men are working together and are willing to stand behind their products.

The consumer of eggs, (and that takes in nearly everybody) will welcome the organization of egg clubs, and the farmers about Mott are to be congratulated on having started the movement in North Dakota.

Mr. J. R. Campbell, the Better Farming man in Hettinger County is active in helping the farmers in their co-operative enterprises.

A BOOK FOR BRIDES

The young woman about to have a home of her own will avoid quite a few heartaches and disappointments if she knows just how to solve the many problems of housekeeping in the most efficient and economical way.

And she need not have learned from bitter experience if she is the fortunate owner of one of the little books published by the manufacturers of Ivory Soap.

This volume, which they call "The Bride's Book," contains a wealth of information about general housework, the definite instructions, if you please, as to how to do the puzzling things which, otherwise, waste a woman's time and try her temper.

For instance, it gives recipes for keeping beds clean, washing blankets, washing dishes, cleaning furniture and woodwork, cleaning gloves, cleaning hardwood floors, washing lace curtains, cleaning oil paintings, cleaning the piano, taking care of plants, cleaning rugs and carpets, caring for silver and plated ware, removing stains, etc.

Any reader of this paper, whether she is, has been, or expects to be a bride, can have a copy of this book sent postpaid by addressing The Procter & Gamble Co., 6th and Main, Cincinnati. Adv.

\$2000.00 DEATH BENEFIT

\$1000.00 benefit for loss of limb or eyesight; \$15.00 benefit weekly in case of accident or sickness; \$100.00 benefit as Emergency Relief; all these and numerous other benefits are offered in an insurance policy which only costs SIX Dollars (\$6.00) per year; no other dues nor assessments. Men and Women between the ages of 16 to 70 are accepted. No medical examination is required. Reliable Insurance Company with \$100,000.00 State deposit for the protection of Policyholders and to guarantee the payment of claims. Send in your application at once or write for further free information, giving your age, sex and present occupation.

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Erie, Pa.

BEAUTIFY YOUR HOME

Our Specialty: The decoration of small houses at small cost.

Our Motto: It is the use of color, not money, that counts.

Our Charge: Nothing for orders over \$25.00.

Our Object: To please.

Our Knack: The buying of things that count.

Anything you want to know about fixing up your home, ask

SMALL HOUSE DECORATING CO.,
1 Liberty St.,

New York City, N. Y.

PAINT MATTERS

In commenting on the paint industry in America, The Modern Painter for February, 1914, page 33, quoting from the Trade Extension Journal, states as follows:

"Until the passage of the first efficient and vigorous Paint Law in 1905, enacted by the State of North Dakota, and the Court proceedings attendant thereto for the determining of the constitutionality of that Law, those interested in the subject of pigments and paints were compelled to trust to English books for information as our own literature was noticeable only for its meagerness.

"New pigments have come into use during the last ten years; new processes have developed for the manufacture of the older pigments; new combinations of pigments have been worked out that have secured results hitherto unattainable. Yet, up to the time mentioned above, except for short articles in some of the trade papers, these improvements and invasions remained practically untested. Since public attention has been directed to the paint industry by the enactment of the various state laws regarding the sale of paint materials, several excellent American works have been written on this subject."

spoons molasses, small teaspoon salt, two teaspoons soda dissolved in two cups sour milk, three cups graham flour, no shortening, no white flour. Bake with oven not too hot.

Chocolate Gems

One egg, one cup sugar, one cup sour cream, one teaspoon soda, salt, three tablespoons grated chocolate; flour to make soft batter.

Waffles

Two eggs, one cup milk, one and one-half cups flour, one tablespoon butter, two teaspoons baking-powder. Salt.

Strawberry Shortcake

Two cups flour, one tablespoon sugar, one-half cup butter, three-fourths cup milk, four teaspoons baking-powder, one-half teaspoon salt. Bake in two cake-tins.

Sour Cream Cake

One cup sugar, one cup sour cream, two eggs, one and one-half cup flour, one-half teaspoon soda dissolved in cold water, one teaspoon baking-powder.

Angel Food Cake

Whites twelve eggs, beaten stiff; one and one-half cup sugar, one cup Swansdown flour, one teaspoon cream tartar. Sift flour, sugar and cream tartar eight times. Bake 40 minutes.

Jelly Roll

Four eggs, small cup of sugar; beat eggs and sugar very light; one cup of flour, any flavor.

Seasonable Receipts

Breaded Veal

Use round steak, cut in pieces the right size to serve. Dip in sweet milk, then in beaten egg; roll in cracker or bread crumbs and fry a nice brown. Put in bake-dish. Make a brown gravy in the pan you fried the meat in. Pour this over veal and bake three-fourths of an hour.

Cottage Pie

Butter a baking-dish, put in a thin layer of mashed potato; add a thick layer of cold roast beef, cut in thin slices; sprinkle with salt and pepper and moisten it with meat gravy. Put a thin layer of mashed potato on top and cover it, and bake in quick oven long enough to heat it thru, then remove the cover and brown the potatoes.

Meat Patties

Grind cold meat fine. Break in enough eggs to make a soft batter, not too thin. Season with salt and pepper. Have butter hot in spider; fry quickly and keep soft. Serve with jelly.

Ham Croquettes

One cup chopped ham, two cups chopped potato, one cup bread crumbs, one tablespoon butter, one egg. Season with salt and pepper; make in flat balls; roll in bread crumbs and fry in hot fat.

Cheese Rice

To one-half cup rice add one and one-half cups boiling water and a little salt; and boil rapidly until done. In a buttered baking dish put a layer of rice, sprinkle thickly with cheese that has been put thru the meat chopper. Season with salt, pepper and butter; then another layer of rice, and

cheese. Dot top with butter; cover to half inch of top with sweet milk and bake one-half hour.

Macaroni Scalloped

Cook one-half package of macaroni in salted water 20 minutes; drain and put in cold water 10 minutes. Put in baking dish and add two onions, one-half can tomatoes, one-fourth pound grated cheese and two slices of bacon cut in dice, also salt and pepper. Bake about two hours.

Creamed Eggs

One heaping tablespoon butter, one heaping tablespoon flour. Melt over slow fire and add one pint milk. Cook till creamy and season with salt and pepper. Add six hard-boiled eggs, cut in two lengthwise and heat thru. A few slices of pimientos are a great improvement. This is a good dish for lunch.

Baked Eggs

Break eggs in buttered bake dish; pour over thick cream to nearly cover. Salt and pepper and put in oven until just set.

Souffled Eggs on Toast

Beat the whites of five eggs stiff; spread on five pieces crisp, buttered toast. Drop the yolks in the center and set in the oven for a few minutes.

Cinnamon Bread


One egg, four scant tablespoons melted butter, one-half cup of milk. Sift one cup of flour with three level teaspoons baking-powder, one-half cup of sugar, one scant dessert spoon of cinnamon, pinch of salt. Bake in gem tins or shallow pan.

Splendid Graham Bread

Four tablespoons sugar, two table-

BAKER'S COCOA

Is Good Cocoa



Of fine quality, made from carefully selected high-grade cocoa beans, skilfully blended, prepared by a perfect mechanical process, without the use of chemicals or dyes. It contains no added potash, possesses a delicious natural flavor, and is of great food value.

WALTER BAKER & CO. Limited
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Precious Metals Ground in Linseed Oil

THAT'S what Horse Shoe Brand House Paint is: every gallon of it is strictly pure lead and zinc ground in strictly pure linseed oil.

It's a fact; and when your house puts on a coat of Mound City House Paint it fronts the world, so to speak, in cream, or gray, or tan, or white armor plate.

Strictly pure zinc makes up what lead lacks: strengthens where lead is weak—is harder—whiter—more clear—and beautiful.

White lead is just what its name implies, metal—*soft* metal, of great covering power.

Strictly pure linseed oil is the liquid that binds these natural partners together.

Zinc takes more oil to the pound than lead, and, because "oil is the life of paint" lead plus zinc makes the best paint known.

Base metals are sometimes used in paints, but their value is unproved—and unless you are willing to lend your two or three-thousand-dollar house as a subject for experiment—better keep on the safe side and buy Mound City Horse Shoe Brand House Paint, which is made of really precious metals, in right proportions, and rightly ground in pure aged linseed oil.

Mound City Paint & Color Co.

Good Makers of Good Paints

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NORRIS B. GREGG, Pres.

WM. H. GREGG, JR., Vice-Pres.

E. H. DYER, Sec